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ABSTRACTS

FIBERS A

TENSILE PROPERTIES OF TWISTED SINGLE FIBERS. R. W. Dent and J. W. S. Hearle (Manchester Coll. Science & Technol.). Textile Research J. 30: 805-826 (Nov. 1960). (4750)

Single fibers were twisted to various amounts prior to tensile testing. The variations with twist in tenacity, breaking extension, modulus, and contraction or contractive stress on twisting have thus been measured. Experiments were carried out for both constant-tension and constant-length twisting; subsidiary experiments show the effect of other factors. The results are compared with those of other workers; explanations of them are offered. Photomicrographs, diagr, graphs, tables, 27 refs.

INTRODUCTION TO TEXTILES. E. E. Stout. John Wiley & Sons, N. Y. 1960. 363 p. $6.50. (4751)

Contents: Introduction; Fibers, their classification and identification; Natural cellulosic (vegetable) fibers; Natural protein (animal) fibers; Non-thermoplastic manmade fibers; Thermoplastic manmade fibers; Mineral fibers: natural and manmade; Yarns and yarn processes; Fabric construction; Fabric finishing; Fabric color and design; Mixtures and blended fabrics; Wash-and-wear, minimum care, or easy care fabrics and apparel; Interrelations of properties and fabric performance. 90 fibers are described. References at the end of each chapter.

A POSSIBLE APPLICATION OF ORGANIC FIBERS IN HIGH TEMPERATURE ENVIRONMENT. M. J. Coplan, D. H. Powers, Jr., L. Barish, and E. I. Valko (Fabric Research Labs.). Wright Air Development Division, Wright-Patterson Air Force Base, Ohio. June 1960. 129 p. WADD tech. report 60-9. (4752)

It is taken as a premise that fabrics used in re-entry drag parachutes (1) require typical textile properties up to deployment but (2) that they need not survive in their original chemical state subsequent to deployment provided the decay occasioned by re-entry conditions (heat, active oxygen, irradiation) does not interfere with the deceleration function. The possible utility of linear organic polymers as the principal chemical species in such materials is examined. Recognizing that the principal deficiency of the organic polymer fibers resides in their thermal and thermochemical sensitivity, a survey of the causes of these deficiencies is given. Some speculative arguments are advanced relative to means of overcoming the deficiencies. In addition, a broad concept for a means of employing the organic materials is proposed wherein thermal degeneration is to be anticipated and even used to advantage. A detailed account of the principles of the so-called "metamorphic" fiber system is given. A number of specific thermochemical reaction schemes and polymer systems are proposed. Extensive literature references.

FIBERS: I/EC MATERIALS OF CONSTRUCTION REVIEW. C. S. Grove, Jr., J. L. Vodonik, and R. S. Casey. Ind. Eng. Chem. 52: 959-961 (Nov. 1960). (4753)

A review of fiber developments and literature for the past year under the headings: economics, industrial uses, nonwoven fabrics, and new fibers. 98 refs.

Natural fibers A1

SOUTH TEXAS COTTON. F. L. Gerdes. Textile World 110: 61 (Nov. 1960). (4754)

Fiber properties of the 1960 crop are compared with the 1954-59 average.

SHORT FIBER CONTENT OF COTTONS: TEST RESULTS FOR SEVERAL HUNDRED BALES. U. S. Agri. Mktg. Serv., Cotton Division., Washington 25, D. C. Oct. 1960. 3 p. AMS 413. (4755)

EFFECT OF SHORT FIBERS IN A COTTON ON ITS PROCESSING EFFICIENCY AND PRODUCT QUALITY. PART 2. YARNS MADE BY MINIATURE SPINNING TECHNIQUES FROM DIFFERENTIALLY GINNED COTTON. J. D. Tallant and L. A. Fiori (So. Reg. Research Lab.), and C. B. Landstreet (USDA Cotton Field Station). Textile Research J. 30: 792-795 (Oct. 1960). (4756)

The conclusions reached by means of miniature spinning techniques with very small samples of cotton were similar to those obtained in Part 1 (see abstr. 3649/59): changes in short fiber content do not affect the twist required for maximum strength but do lower strength somewhat more than 1% for each 1% increase in short fiber content. These samples covered an exceptionally wide range of short fiber contents, from less than 1% to almost 20% by weight of fibers 3/8 in. and shorter. The very low short fiber content cottons were produced by careful hand ginning techniques while the remainder were obtained by differential ginning techniques. Graphs, table, 9 refs.

SORPTION KINETICS OF WATER VAPOR IN WOOL FIBERS: EVALUATION OF DIFFUSION COEFFICIENTS AND ANALYSIS OF INTEGRAL SORPTION. P. Nordon, B. H. Mackay, J. G. Downes, and G. B. McMahon (CSIRO Wool Research Labs.). Textile Research J. 30: 761-770 (Oct. 1960). (4757)

A number of interval sorption experiments have been made and analyzed, assuming Fick's law; diffusion coefficients were derived. These coefficients have been used to predict the behavior in integral sorption; the disagreement between prediction and experiment is discussed. Integral sorption experiments have also been carried out on horse hairs of various diameters to trace the influence of diameter on the sorption rate. Graphs, 23 refs.

INHERITANCE OF X-RAY DIFFRACTION PATTERN AND ITS CORRELATION WITH OTHER PROPERTIES IN UPLAND COTTON. J. O. Ware. Agron. J. 52: 25-26 (1960). Through BCIRA 40: 3407 (1960). (4758)

A significant negative correlation was found between x-ray angle and lint strength.

THE COTTON PLANT: HOW IT GROWS AND WHY ITS GROWTH VARIES. W. H. Tharp. U. S. Agri. Research Serv., Washington 25, D. C. June 1960. 17 p. Agriculture handbook no. 178. Available from Superintendent of Documents, Washington 25, D. C. 20¢. (4759)

COLOR CODE FOR RELATING COLOR MEASUREMENTS OF RAW COTTON TO COLOR IN GRADE STANDARDS. U. S. Agri. Mktg. Service, Cotton Division, Washington 25, D. C. Oct. 1960. 4 p. AMS 411. (4760)

MECHANICAL PROPERTIES OF THE ORTHO- AND PARA-LIKE COMPONENTS OF LINCOLN WOOL FIBERS. M. Feughelman and A. R. Haly (C. S. I. R. O. Wool Research Labs.). Textile Research J. 30: 897-900 (Nov. 1960). (4761)

The mechanical properties of Lincoln wool fibers in which the para-like portion of the wool fiber has been removed by abrasion have been compared with the properties of the same fibers unabraded. Results of tests in water at 20° C indicate that the stress-strain curve in the yield region is considerably different in slope for an unabraded as against an abraded fiber. This result, together with other lesser mechanical differences, can be explained in terms of a difference of packing between the para-like and ortho-like components of a wool fiber. At pH 1 mechanical tests show a major reduction in these mechanical differences, suggesting that the packing in para-like wool components is mainly dependent on salt linkages. Graphs, tables, 7 refs.

COTTON QUALITY STUDY. PART 5. RESISTANCE TO ABRASION. J. P. McNally and F. A. McCord (Nat. Cotton Coun.). Textile Research J. 30: 715-751 (Oct. 1960). (4762)

In recent years competition from certain synthetic fibers, particularly nylon, has made reappraisal of cotton's abrasion performance desirable. Increasing use of chemical finishes to enhance such qualities as mildew, soil, and wrinkle resistance intensifies the need for good abrasion resistance in cotton textiles. This study discusses cotton's market potential through improved abrasion resistance, reviews technology related to abrasion resistance, and suggests research that might well contribute to increasing markets for cotton. Photos, photomicrographs, diagrs, graph, tables, 208 refs.

CONTROLLING STATIC ELECTRICITY ON COTTON DURING GINNING WITH AN ANTISTATIC AGENT. C. G. Leonard. U. S. Agri. Research Serv., Washington 25, D. C. Mar. 1960. 16 p. ARS 42-39. (4763)

OBSERVATIONS ON THE YELLOWING OF JUTE. A. B. Sen Gupta, S. K. Majumdar, and W. G. Macmillan (Indian Jute Mills Assoc. Research Inst., Calcutta). Sci. and Culture (Calcutta) 25: 443-446 (1960). Summary in Chem. Abstr. 54: 23343d (1960). (4764)

DIFFERENTIAL THERMAL ANALYSIS OF PROTEIN FIBERS. R. F. Schwenker, Jr., and J. H. Dusenbury (Textile Research Inst.). (Letter to the editor). Textile Research J. 30: 800-801 (Oct. 1960). (4765)

Data on the thermal behavior of keratin fibers obtained by differential thermal analysis are reported. 8 refs.

ON TENSILE PROPERTIES OF ALKALI-TREATED JUTE FIBERS. J. Banbaji (Inst. Fibres & Forest Prods. Research, Israel). (Letter to the editor). Textile Research J. 30: 798-800 (Oct. 1960). (4766)

Manmade fibers A2

IS THE DEVELOPMENT OF VISCOSE FIBERS CONCLUDED? K. Götze. Melliand Textilber. 41, No. 8: 979-983 (1960). In German. Through BCIRA 40: 3423 (1960). (4767)

A survey is made of the improvements in fiber properties of regenerated celluloses, achieved during the past 20 years, and principles of the production of so-called modified fibers and of polynosic fibers (Medifil and Meryl), their properties and prospects for future development are discussed.

HOW TO MAKE FABRICS WITH ROVANA YARN. W. J. Klubowicz (Dow Chem. Co.). Textile Inds. 124: 74-76 (Nov. 1960). (4768)

The properties and applications of Rovana saran micro-tape yarns are described, and tips on twisting, rewinding, warping, quilling, and weaving are given. Photos.

MANMADE FIBER BRAND NAMES. Am. Fabrics Magazine, 152 E. 40 St., New York, N. Y. 1960. $1.00. (4769)

The listing covers all U. S. brands by types, together with their producers. It also lists the major foreign producers of manmade fibers and their brand names.

EFFECT OF THE TECHNIQUE OF EXPOSURE ON THE CHARACTERISTIC PARAMETERS WHICH CAN BE DERIVED FROM X-RAY EXPOSURES OF RAYON. P. H. Hermans and A. Weidinger (Inst. Cellulose Research AKU). Textile Research J. 30: 770-773 (Oct. 1960). (4770)

Several attempts have been proposed to derive certain parameters from x-ray exposures of rayon fiber to characterize the fiber in question in relation to practical or research problems. Attention is drawn to the distortion of the x-ray diffraction picture by "white radiation" when using a nickel filter and by radiation scattered by air. Means are proposed to minimize these effects. A new parameter is introduced to characterize the lateral order in rayons. Graphs, tables, 4 refs.

RESURGENCE OF CUPRO. Man-Made Textiles 37: 44-48 (Oct. 1960). (4771)

The new Bemberg Dureta cupro continuous spinning system which has increased the tenacity of the cupro yarns is described. It is suggested that this and other developments may make the fiber directly competitive with viscose. Photos, diagr.

ARNEL 60: A NEW, STRONGER TRIACETATE FIBER. C. S. Clutz, H. F. Elsom, and R. D. Williams (Celanese Corp.). Modern Textiles Mag. 41: 71-75 (Nov. 1960). (4772)

Some of the more important characteristics of Arnel 60 which are also inherent in regular Arnel are reviewed, first in terms of fabric performance, and then in terms of fiber properties of Arnel 60 which are different from Arnel.

CONTINUOUS FILAMENT CERAMIC FIBERS. W. A. Lambertson, D. B. Aiken, and E. H. Girard (Carborundum Co.). Wright Air Development Div., Wright-Patterson Air Force Base, Ohio. June 1960. 76 p. WADD tech. report 60-244. (4773)

Melting and fining of refractory glass compositions and drawing of continuous filament ceramic fibers have been carried out in a dry, inert-atmosphere glovebox, which permitted the use of refractory metals, graphite, and boron nitride as crucible and heater materials, and prevented the adsorption of moisture by the filaments. Several refractory glasses in the baria-alumina-silica, calcia-alumina-silica, and magnesia-alumina-silica systems were successfully drawn into continuous filaments. Tensile strengths of filaments drawn were determined at room and elevated temperatures. Values as high as 138,000 psi at room temperature and 132,000 psi at 1500° F (815° C) were obtained. 45 refs.

DEVELOPMENT OF TEXTILE TYPE VITREOUS SILICA YARNS. W. W. Drummond and B. A. Cash (Bjorksten Research Labs.). Wright Air Development Div., Wright-Patterson Air Force Base, Ohio. Mar. 1960. 47 p. WADC tech. report 59-699. (4774)

Experiments were performed leading to development of methods for producing vitreous silica textile yarns from fused quartz canes or rods by means of electrical heating devices. Both induction and resistance furnace devices were used, best performance being obtained from a resistance unit shielded against radiation losses and operating in a protective atmosphere. Power capabilities of available equipment were insufficient to permit production of a large number of continuous filaments simultaneously, but operation with five filaments was achieved. A limited amount of data on physical properties of filaments and strands was obtained.

STRENGTH OF IRRADIATED DRAWN AND UNDRAWN NYLON. C. C. Hsiao, Y. C. Das, and A. Haynes. Brit. J. Appl. Phys. 11, No. 7: 277-279 (1960). Through BCIRA 40: 3566 (1960). (4775)

The ultimate strength and the elastic modulus of undrawn nylon (610) filament decrease markedly to a minimum, as compared with those of drawn samples, upon receiving a reactor radiation indexed by the thermal neutron component of 6×10^{17} nvt. However, at somewhat higher levels of irradiation, the ultimate tensile strength and the modulus of elasticity of the undrawn nylon increase, while those of the drawn nylon continue to decrease until they approach nearly the same level. At a still higher does of irradiation, the ultimate tensile strength of both drawn and undrawn samples drops sharply while the modulus of elasticity increases sharply.

RESISTANCE OF CHEMSTRAND NYLON TO FLUORESCENT LIGHT AND SUNLIGHT DEGRADATION. Chemstrand Corp., Pensacola, Fla. Nov. 1960. 10 p. Bull. No. 1.13. (4776)

YARN PRODUCTION B

STUDIES ON IMPROVEMENT OF CLEANING METHODS IN SPINNING MILLS. PART 9. CHARACTERISTICS OF A BLOW NOZZLE PARALLEL TO THE FLOOR. Y. Niitsu, S. Fujimori, and K. Hosokawa. J. Textile Machy. Soc. Japan 13, No. 7: 500-508 (1960). In Japanese (English summary). Through BCIRA 40: 3466 (1960). (4777)

OILING FOR STRENGTH. L. Mauri. Ingenieria Textil 37: 215-223 (May/June 1960). In Spanish. Through BCIRA 40: 3435 (1960). (4778)

The properties, method of application, uses and advantages of colloidal silica dispersions are discussed, with special reference to Houghtosil 1715 and 1730 (Houghton Hispania SA).

PIECE-WORK WAGES IN COTTON SPINNING. H. Kuhn. Textil-Praxis 15, No. 7: 738-742 (1960). In German. Through BCIRA 40: 3667 (1960). (4779)

A new system of piece-work wage calculation is described and some examples are given. The efficiency/piece-work system has been successfully introduced in several spinning mills; it has many advantages over the piece-work system based on certain length or weight units.

COMPOSITION OF MIXTURES IN COTTON SPINNING. V. Copilu. Industria Textila 11, No. 6: 229-230 (1960). In Rumanian. Through BCIRA 40: 3468 (1960). (4780)

CHOOSING THE BEST DRAFT. PART 2. SHORT STAPLE COTTONS. J. Simpson, A. T. Callegan, and C. L. Sens (So. Reg. Research Lab.). Textile Inds. 124: 101, 104-109, 115 (Nov. 1960). (4781)

Results of a study made to determine the optimum draft allocations, from picking through spinning, required to obtain the best possible yarn uniformity, strength, and elongation are presented using the same procedures as in Part 1 (abstr. 2266/60). Graphs, tables, 2 refs.

MODERN COTTON SPINNING. [DIE MODERNE BAUMWOLLSPINNEREI]. F. Walz. Bernh. Friedr. Voigt, Verlag Handwerk und Technik, Berlin-Hamburg. 1960. 344 p. In German. Through BCIRA 40: 2630 (1960). (4782)

This book is produced as a supplement to Johannsen's "Handbuch der Baumwollspinnerei" and covers the developments, particularly machinery developments, between 1956 and 1959. It includes a section on the preparatory processing of manmade fibers (viscose and cuprammonium rayon staple, cellulose acetate and triacetate, polyvinyl chloride, polyamide, polyacrylonitrile, polyester, polyvinyl alcohol, and polyolefin fibers) by J. Lünenschloss.

SPINNING NYLON CARPET YARNS ON THE AMERICAN WORSTED SYSTEM. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Nov. 1960. 3 p. Bull. N-137 (replaces Bull. N-102). Free. (4783)

Processing 15 denier Du Pont nylon tow using the Pacific converter.

USE OF MAGNETS FOR TEXTILE MACHINERY. K. Fujino. J. Textile Machy. Soc. Japan 13, No. 7: 509-510 (1960). In Japanese. Through BCIRA 40: 3459 (1960). (4784)

This paper is introductory to others: Magnets and magnetic top rollers, by R. Tawara, p. 511-519; Magnetic clearer, by Y. Komatsu and K. Wakayama, p. 520-525; Use of the magnet roller on the cotton spinning frame, by T. Tooka and J. Narita, p. 526-532; and Spinning with spinning machines that use magnets, by I. Kaino, p. 533-537.

LENGTH AND FINENESS OF JUTE FIBER FILAMENTS AT VARIOUS STAGES OF YARN PRODUCTION AND IN YARNS OF DIFFERENT QUALITIES OF FIBER. S. B. Bandyopadhyay and N. K. Sil (Indian Central Jute Comm.). Textile Research J. 30: 785-791 (Oct. 1960). (4785)

Changes in length and fineness of jute fiber filaments have been studied at different stages of yarn production, including carding, drawing, roving, and spinning. Length decreases and the filament becomes finer as processing progresses. The distribution of length and the length-fineness relation, however, remain similar in all stages. Filament length in yarns made by a standard process from different types of jute depends only slightly on fiber quality, while intrinsic filament fineness correlates fairly well with the filament fineness of unprocessed fiber. Graphs, tables, 12 refs.

Opening, picking, fiber preparation B1

MEANS FOR REDUCING LAP IRREGULARITY AND ITS VARIATIONS. I. S. Isaev. Tekstil. Prom. 20, No. 2: 70-74 (1960). In Russian. Through BCIRA 40: 3439 (1960). (4786)

Measures adopted on the opener-picker to reduce lap irregularity are described. Examination of the laps on 1/2-m sections showed that, after introduction of these measures, their irregularity decreased by 1.1% (2.1 instead of 3.2%).

AUTOMATIC LAP DOFFING ON PICKING MACHINES. A. A. Dylevskii. Tekstil. Prom. 20, No. 2: 74-76 (1960). In Russian. Through BCIRA 40: 3438 (1960). (4787)

The mechanism for automatic doffing and removal of the lap rod is described. It is claimed to improve the lap quality and to increase the production of the machines.

TWO NEW RIETER CLEANING MACHINES. W. T. Swatek. Melliand Textilber. 41, No. 8: 921-927 (1960). In German. Through BCIRA 40: 3437 (1960). (4788)

Construction, mechanism, and economic aspects of the bale mixer/opener, model B 2/1 and of the mono-roller cleaner, model B 4 are described.

NEW METHOD OF MIXING FIBROUS MATERIALS. A. V. Rezvyakov. Tekstil. Prom. 20, No. 2: 32-36 (1960). In Russian. Through BCIRA 40: 3436 (1960). (4789)

The method described makes it possible to mix the fibers in a continuous manner by combining the opening machines with the mixing chambers; teasing machines are thereby eliminated.

WEIGHT VS VOLUME FEEDING OF COTTON. D. Meyers (Joanna Cotton Mills). Textile Inds. 124: 83 (Nov. 1960). (4790)

An automatic blending system that weighs and sandwiches its own mixes is briefly described.

Carding and combing B2

LARGER CANS ON CARDING MACHINES. K. A. Karlov, I. I. Shulyam'ev, and N. I. Razikov. Tekstil. Prom. 20, No. 1: 70-72 (1960). In Russian. Through BCIRA 40: 3443 (1960). (4791)

The advantages of the new sliver-coiling device described, depositing the card slivers in cans with a diameter of 405 mm and a height of 910 mm, are enumerated.

DOFFER COMB BLADES. German Standards Comm. Melliand Textilber. 41, No. 8: 946 (1960). In German. Through BCIRA 40: 3442 (1960). (4792)

The draft standard DIN 64 115 specifies the dimensions, material, and construction of doffer comb blades.

CLEANING OF THE WEB ON THE CARD. R. Löcker. Z. ges. Textil-Ind. 62, No. 15: 592-595 (1960). In German. Through BCIRA 40: 3440 (1960). (4793)

The Crosrol web purifier on cotton cards is described and illustrated, and the effects of web purification on number of neps, irregularity, waste, production, end-breaks on ring spinning machines, and tensile strength are studied in a series of experiments.

MEASURE OF THE VARIATION IN BLEND PROPORTIONS ALONG BLENDED YARNS AND ITS RELATION TO THE NUMBER OF DOUBLINGS USED IN PROCESSING. P. G. Walker (Shirley Inst.). Textile Research J. 30: 843-848 (Nov. 1960). (4794)

Measurements of short-term variations in blend proportions along the length of a yarn are compared with the variations predicted theoretically. For few doublings the observed variation is found to be greater than the theoretical variation. The results are used to express, as an equivalent number of doublings, the action of the card on this variation in blend proportion. Graphs, tables, 11 refs.

FROM STAPLE TO SLIVER. H. Needham and W. Parkin. Wool Rev. 34: 22-24 (Sept. 1960). (4795)

Worsted carding developments are briefly surveyed and the application of preparing gill boxes to the preparation of short wools, on an experimental basis, is described.

Drawing and roving B3

HOW TO REPAIR FALLER BARS. PART 1. SOLDERED TYPE FALLER BARS. Textile Inds. 124: 69-71 (Nov. 1960). (4796)

Word and picture presentation of Warner & Swasey factory-approved methods for replacing pins in soldered type pin drafter faller bars. Photos.

NEW METHOD OF FEEDING ROVING TO THE DRAFTING MECHANISM. Z. M. Erashova and V. V. Kokorin. Tekhnol. Tekstil. Prom. No. 2 (15): 58-60 (1960). In Russian. Through BCIRA 40: 3456 (1960). (4797)

The method recommended was found to be effective and convenient. The regularity of the roving was improved by using rectangular condensers. A considerably increased load on the back rollers was found to have an insignificant effect on the roving irregularity.

DISTRIBUTION OF VELOCITY-CHANGE-POINTS IN ROLLER DRAFTING. PART 4. EFFECTS OF SLIVER THICKNESS. PART 5. EFFECTS OF TIMES OF DRAWING. T. Ichino, S. Kurosaki, and F. Konda. J. Soc. Textile Cellulose Inds. Japan 16, No. 7: 566-570 (1960). In Japanese (English summary). Through BCIRA 40: 3449 (1960). (4798)

By measuring the displacement of dyed fibers inserted into the sliver before drafting, (1) the effects of sliver thickness on the distribution of the velocity-change-points, and (2) the distributions of the velocity-change-points for card sliver and first-, second-, and third-head drawframe slivers were studied.

ECONOMIC ASPECTS OF MODERN COTTON DRAW-FRAMES. F. Walz. Textil-Praxis 15, No. 7: 670-674 (1960). In German. Through BCIRA 40: 3444 (1960). (4799)

In this review, the author discusses the historical development, recent improvements (Shirley 3 over 4 drawing system), the present state, efficiency comparison of drawframes, installation and power costs, effect of cans 40 and 42 in. high, limits of can sizes, purchase of new drawframes for existing spinning mills, and drawing systems with automatic can-change.

TESTER FOR THE CONTINUOUS DETERMINATION OF DRAFTING FORCES. W. Wegener and H. Bechlenberg. Textil-Praxis 15, No. 7: 693-697 (1960). In German. Through BCIRA 40: 3453 (1960). (4800)

The device described for the continuous determination of drafting forces during drawing, of slivers and rovings is especially suitable for laboratory experiments. In order to eliminate interfering factors and simulate practical conditions, the drawing system consists of a preliminary and a main drafting device. In the preliminary drafting zone, the draft can be varied in 10 stages between 1- and 1.6-fold and the drafting-zone width is infinitely adjustable between 25 and 100 mm. For the main drafting zone a total of 25 drafting stages is provided. The change of the main draft, adjustable between 1.1- and 10-fold, is effected by means of a shift-gear transmission. The nip distance of the pairs of drawing rollers can be adapted to the staple length within a range of 25/300 mm.

DEVICE FOR DETERMINING THE STRAIGHTENING OF FIBERS IN SLIVERS AND ROVINGS. V. V. Zhokhovskii. Tekhnol. Tekstil. Prom. No. 2 (15): 46-49 (1960). In Russian. Through BCIRA 40: 3452 (1960). (4801)

The device described makes it possible to determine the straightening of fibers without removing them from the product. The tests can be carried out within 30-40 min with an accuracy of 0.01 mm. The use of the device in industry will assist in evaluating the efficiency of drafting systems on drawframes and speedframes.

THEORETICAL PRINCIPLES OF THE WORK OF MODERN AUTOMATIC DRAFT REGULATORS. A. G. Sevostyanov. Tekstil. Prom. 20, No. 2: 23-28 (1960). In Russian. Through BCIRA 40: 3445 (1960). (4802)

OPTIMUM DRAFT DISTRIBUTION ON THE SPEED FRAME RTT-168. A. I. Mizonova. Tekhnol. Tekstil. Prom. No. 2 (15): 51-57 (1960). In Russian. Through BCIRA 40: 3455 (1960). (4803)

The draft was calculated by means of the formula: $E = 6.25N^{5/9}$ (where E = total draft; N = count of the roving) and the draft ratio in the front (e_1) and back (e_3) zones from $e_1/e_3 = 2.311 \sqrt[4]{N}$ (where N = sliver count). The results are discussed and tabulated.

Spinning, winding, twisting B4

EXAMINATION OF THE PERFORMANCE OF SPINNING MACHINES WITH VIBRATING THREAD GUIDES. E. D. Mizonov and V. V. Gorodov. Tekstil. Prom. 20, No. 1: 34-36 (1960). In Russian. Through BCIRA 40: 3460 (1960). (4804)

Yarn produced by using vibrators shows increased breaking length (by 5%) and is of a higher quality. This is attributed to a more uniform twist distribution over the length of the yarn. The vibrator, imparting to the thread small impulses, shakes it and removes from it adhering impurities so that the amount of impurity is reduced by 15%. Owing to the better twist distribution on the section between the thread guide and the front drawing-roller pair, the weak parts of the thread are strengthened. The breakage frequency on machines with vibrator decreases by 10.2%.

MATHEMATICAL/STATISTICAL CONTROL METHOD FOR YARN BREAKAGE FREQUENCY IN RING SPINNING. N. Rancu and L. Tövissi. Industria Textila 11, No. 6: 213-215 (1960). In Rumanian. Through BCIRA 40: 3467 (1960). (4805)

COMPARATIVE INVESTIGATIONS ON POLYAMIDE AND COTTON SPINDLE TAPES. J. Lünenschloss and H. Herdtle. Textil-Praxis 15, No. 7: 675-684 (1960). In German. Through BCIRA 40: 3469 (1960). (4806)

A spindle tape from continuous polyamide filaments was found to stretch more during use than cotton tapes, whereas tapes from polyamide staple-fiber yarn stretched less than those from cotton. Continuous-filament tapes showed during use wear phenomena which, according to laboratory tests, were not expected.

TOP ROLL CARRYING AND WEIGHTING ARM FOR SPINNING MACHINE DRAFTING SYSTEMS. PART 2. O. Heimeran. Textil-Praxis 15, No. 5: 467-470; No. 6: 596-600 (1960). In German. Through BCIRA 40: 3118 (1960). (4807)

In continuation of a previous article (abstr. 3067/60), descriptions are given of the following constructions: Rieter (Ger. Pat. 957 369); Raible (USP 2 675 587); Dausch (USP 2 694 230); v. Grossmann (Ger. Pat. 925 471); Noguera (Ger. Pat. 937 695); Saco-Lowell (USP 2 758 340 and 2 801 448); SKF Kugellagerfabriken (Ger. Pat. 1 031 189).

AUTOMATIC BOBBIN DOFFER ON COTTON SPINNING MACHINES. A. A. Dylevskii. Tekstil. Prom. 20, No. 1: 66-68 (1960). In Russian. Through BCIRA 40: 3463 (1960). (4808)

Yarns B5

HARD TWISTED YARN. PART 3. GEOMETRICAL STUDIES ON THE STRUCTURE OF TWISTED YARN AND LIMIT OF TWIST. S. Kakiage. J. Textile Machy. Soc. Japan 13, No. 7: 481-491 (1960). In Japanese (English summary). Through BCIRA 40: 3581 (1960). (4809)

The maximum limit of the first angle of a continuous-filament yarn is 45° if the twist angle θ is calculated from tan θ = πdT, where d is the outer diameter and T the number of twists; but this limit has some allowance according to fiber behavior. The effective twist angle (θ_T) of the outermost-layer fiber to its own axis is obtained from tan θ_T = sin2θ/2(n-1), where n is the total number of fibers in the cross-section of the yarn.

EFFECT OF TWIST ON THE STRENGTH AND ABRASION RESISTANCE OF MANMADE FIBER YARNS. A. Kevorkian. Tekhnol. Tekstil. Prom. No. 2 (15): 9-16 (1960). In Russian. Through BCIRA 40: 3584 (1960). (4810)

On the basis of the experiments described, use of the complex cuprammonium and viscose rayon yarns is recommended with a twist coefficient α = 0-100 depending upon their end-use, together with thicker elementary yarns. In all cases where the yarns are to be subjected to intense mechanical treatment, provision should be made for conditioning or fixing the twisted yarns.

EFFECT OF YARN TWIST AND FIBER PROPERTIES ON THE CRIMPING TENDENCY OF PLY YARNS. J. Lünenschloss, J. G. Helli, and H. Hummel. Melliand Textilber. 41, No. 8: 933-941 (1960). In German. Through BCIRA 40: 3582 (1960). (4811)

Examination of fiber strength and elongation, loop strength, kinetic energy, elasticity modulus, fineness, fiber lengths and their distribution, and effect of weight showed that the crimping tendency of yarns is due to fiber tensions produced by the twist of the yarn. The stabilized state of the yarn can be explained not only by the twist geometry, but is also determined by the slenderness ratio of the fiber and the elasticity modulus.

TRUE INDEX OF NONUNIFORMITY FOR JUTE YARN. S. B. Bandyopadhyay (Indian Central Jute Comm.). Textile Research J. 30: 782-784 (Oct. 1960). (4812)

A theoretical expression for the nonuniformity of random jute yarn has been derived from the fineness-length relation and the distribution of length of the filaments in the yarn. The ratio of the actual measured nonuniformity of the yarn to this theoretical value has been suggested to be a true index of nonuniformity due to processing. Table, 12 refs.

TASLAN IN BRITAIN. Skinner's Silk & Rayon Record 34: 994-1003 (Oct. 1960). (4813)

This article is concerned with the conventional development of the Taslan process by each British processor, outlining and showing examples of their latest commercial work. Swatches.

CLASSIFICATION OF TEXTURED YARNS. H. Wehr. Deut. Textiltech. 10, No. 7: 373-379 (1960). In German. Through BCIRA 40: 3474 (1960). (4814)

The classification proposed takes into account the type of fiber used, the form of the yarn (staple or filament), the group and type of textured yarn, the production technology, uses, and characteristic properties. 22 refs.

STRESS-STRAIN RELATIONSHIPS IN YARNS SUBJECTED TO RAPID IMPACT LOADING. PART 6. VELOCITIES OF STRAIN WAVES RESULTING FROM IMPACT. J. C. Smith, J. M. Blandford, and H. F. Schiefer (Nat. Bur. Standards). Textile Research J. 30: 752-760 (Oct. 1960). (4815)

When a textile yarn is impacted transversely, strain waves and transverse waves which travel outwards away from the point of impact are initiated. Each strain-wave front travels at constant velocity. A transverse-wave front, however, changes its velocity each time it meets a reflected strain-wave front. This effect forms the basis of a new method used to measure strain-wave propagation velocities in a selection of textile yarns. Velocities obtained in this way are in good agreement with velocities obtained by two other methods. These velocities range in values from 1400 m/sec for undrawn nylon to 5000 m/sec for high tenacity rayon and glass fiber. Graphs, tables, 7 refs.

DIFFERENT CATEGORIES OF TEXTURED NYLON AND THEIR USE IN THE KNITTING INDUSTRY. J. Flamme. Rayonne et Fibres Synthet. No. 7: 717-724 (July 1960). In French. Through BCIRA 40: 3475 (1960). (4816)

The appearance, main types, and production techniques (Helanca, coil-type, crimp-type, curl-type, and loop-type), advantages, and use of textured nylon yarn on knitting machines are discussed.

PRODUCING FALSE-TWIST STRETCH YARNS. PART 1a. YARN CHARACTERISTICS. N. S. Burnip and J. W. S. Hearle. Man-Made Textiles 37: 40-43 (Oct. 1960). (4817)

The effects of varying processing conditions in the false twist processes, e.g. yarn type, yarn speed, tension, temperature, and degree of false-twist, on yarn characteristics are described. Photo, photomicrographs, diagr, graphs.

SWELLING FILAMENTS OBTAINED BY SPINNING. M. Sieroff. Rayonne et Fibres Synthet. No. 7: 679-694 (July 1960). In French. Through BCIRA 40: 3476 (1960). (4818)

The production of high-bulk polyacrylonitrile yarn is described, with reference to various techniques and machines (Turbo-Stapler, Seydel machine, and various converter-type machines).

SHIPPING INFORMATION AND HANDLING INSTRUCTIONS FOR TUBES OF DU PONT ZERO TWIST NYLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 4 p. Bull. N-135 (replaces Bull. N-120). Free. (4819)

Details of the two kinds of zero twist packages for filament nylon and suggestions for their handling are presented.

SEWING MACHINE ADJUSTMENTS FOR THREADS OF DU PONT FIBERS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Nov. 1960. 3 p. Bull. X-125 (replaces Bull. X-79). Free. (4820)

Optimum settings and adjustment techniques for reducing thread breakage of synthetic and natural fiber threads are discussed.

STRETCH YARN TUBES FOR MANMADE FIBERS. German Standards Comm. Textil-Praxis 15, No. 7: 690-692 (1960). In German. Through BCIRA 40: 3471 (1960). (4821)

The German draft specification DIN 64 628 gives the dimensions (in mm) of tubes and tube gages.

TUBES FOR CYLINDRICAL CHEESES FOR SILK AND RAYON YARNS. German Standards Comm. Melliand Textilber. 41, No. 8: 946-947 (1960). In German. Through BCIRA 40: 3479 (1960). (4822)

The draft standard DIN 64 635 specifies the dimensions, material, finish, and surface characteristics of tubes and tube gages (revised DIN 64 620).

SIMPLIFYING CORE YARN PRODUCTION. G. Riding (Brit. Rayon Research Assoc.). Man-Made Textiles 37: 50-52 (Oct. 1960). (4823)

A method of making core yarns on an ordinary doubling machine, by using the property of the differential length changes on twisting to achieve the desired effect, is described. Photos, diagr, graphs, 1 ref.

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

APPLICATION RANGE OF ADJUSTABLE AND FIXED CONES OF WARPING MACHINES. R. Stöck. Melliand Textilber. 41, No. 8: 948-950 (1960). In German. Through BCIRA 40: 3480 (1960). (4824)

The conditions in which adjustable cones are desirable, essential, or indispensable are discussed, with reference to the application limits of the warping cylinder with fixed cone for nylon, viscose, and cotton.

SELF-TIGHTENING KNOT FOR STAPLE FIBER YARN. A. A. Kozhanova. Tekstil. Prom. 20, No. 2: 80-81 (1960). In Russian. Through BCIRA 40: 3481 (1960). (4825)

The non-slipping, self-tightening knot described is claimed to prevent breakages on twisting, winding, and slubbing machines.

DIFFERENTIAL EQUATION FOR THE MOVEMENT OF THE WINDING POINT. E. D. Efremov. Tekhnol. Tekstil. Prom. No. 2 (15): 86-90 (1960). In Russian. Through BCIRA 40: 3477 (1960). (4826)

A general differential equation is derived for calculating the movement of the winding point during spreading of the thread on the bobbin, as well as for studying any other winding processes.

TENSION. E. J. Saxl (Tensitron, Inc.). Textile Inds. 124: 117, 121, 125 (Nov. 1960). (4827)

The determination and analysis of the load-extension characteristics of a particular yarn in arriving at a safe processing tension are described. Photo, diagr, graph, table, 3 refs.

SLASHER SIZING DACRON FILAMENT YARNS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 6 p. Bull. D-130 (replaces Bull. D-101). Free. (4828)

A summary of information on the sizing and afterwaxing of Dacron filament warps for broad woven fabrics.

DRYING OF SIZED WARPS BY MEANS OF AIR DRYERS. K. Dirks. Tekstil-Praxis 15, No. 7: 715-719 (1960). In German. Through BCIRA 40: 3483 (1960). (4829)

Factors affecting the efficiency of hot-air dryers are discussed, with special reference to the Dirks warp-yarn air-dryer with 11 ventilation stages.

Weaving C2

COTTON VERSUS WIRE HEDDLES. Textile Dig. 19: 193-196 (Oct.-Dec. 1958). (4830)

DAMAGE CHECKING AND QUALITY IMPROVEMENT IN CLOTH. G. S. Gokhale. Textile Dig. 19: 147-151 (July-Sept. 1958). (4831)

Analysis of weaving defects with suggestions for ways to reduce them.

PHYSICAL PROPERTIES OF JUTE WARP YARN IN RELATION TO WEAVING PERFORMANCE. I. B. Chakraverti and P. C. Banerjee (Indian Jute Mills Assoc. Research Inst.). Textile Mfr. 86: 385-388, 390 (Oct. 1960). (4832)

The literature on the forces exerted on warp yarns during weaving is reviewed, and the importance of certain yarn characteristics, e.g. tensile strength, extensibility, fatigue resistance, impact resistance, abrasion resistance, and surface characteristics, in withstanding these forces is examined. 29 refs.

SHAFT DESIGNS IN TERRY WEAVING. A. Meister. Melliand Textilber. 41, No. 8: 958-961 (1960). In German. Through BCIRA 40: 3490 (1960). (4833)

GAGES IN DRAPER LOOM MAINTENANCE. PART 9. FINDING AND KEEPING ADEQUATE PICKING POWER. Textile Inds. 124: 97-98 (Nov. 1960). (4834)

LOOMFIXER AND HIS JOB. PART 23. W. Westbrook. Textile Bull. 86: 66 (Nov. 1960). (4835)

The adjustment and maintenance of the Stafford thread cutter are described.

RECENT DEVELOPMENTS IN WEAVING MACHINERY WITH PARTICULAR REFERENCE TO THE WEFT SUPPLY. I. Grover. Textile Dig. 19: 129-134 (July-Sept. 1958). (4836)

NEW LOOMS. PART 1. AUTOMATIC LOOM AT-120-5. PART 2. AUTOMATIC LOOM ATT-120-5. Tekstil. Prom. 20, No. 2: 40-41 (1960). In Russian. Through BCIRA 40: 3485 (1960). (4837)

Technical details are given of the two looms, the AT-120-5 loom being designed for the production of cotton fabric with a density ranging from 7.5 to 68 threads per cm (medium-count yarns), and the loom ATT-120-5 for weaving heavy technical cotton fabrics and multilayer kersey cloth.

PLANNED OVERHAULING PROGRAMME IN WEAVING SHED. D. R. Tavsalkar. Textile Dig. 19: 167-174 (Oct.-Dec. 1958). (4838)

BOX-CHAIN MAKING FOR DOBCROSS LOOMS. PART 1. N. C. Gee. Textile Mfr. 86: 391-393 (Oct. 1960). (4839)

Although the making of box-chains for weft mixing is comparatively simple, the production of chains for fancy checked patterns and complex double cloths requires considerable skill and experience. This article discusses the composition of the box chain and the recording of the boxing plan, the box-chain plan, and the plan of the shuttle positions in constructing box-chains for new fabric designs. Photos, diagrs.

STUDY OF THE SHUTTLE MOVEMENT IN SILK LOOMS. N. V. Tsagareli. Tekstil. Prom. 20, No. 1: 40-44 (1960). In Russian. Through BCIRA 40: 3489 (1960). (4840)

Experiments showed that with decreasing amount of yarn on the pirn, the weft tension increases, reaching a maximum at the moment of unwinding. The weft tension is greater when the shuttle flies from left to right than when it moves in the opposite direction. The weft tension affects the steadiness of shuttle movement, especially during its flight from left to right. Shuttles with a self-starting device were found of advantage.

Knitting C3

FUNDAMENTALS OF WARP KNIT ENGINEERING. PART 5. A. Reisfeld. Knitted Outerwear Times 29: 34-39 (Nov. 7, 1960). (4841)

The contribution of the number of filaments in a yarn to the mechanical, tactile, and aesthetic aspects of the fabric is discussed, as well as luster and color in filament yarns. 4 refs.

FUNDAMENTALS OF WARP KNIT ENGINEERING. PART 6. A. Reisfeld. Knitted Outerwear Times 29: 23, 62-63, 65 (Nov. 21, 1960). (4842)

The importance of the shape of the filament cross-section and its surface characteristics is discussed. Methods of dyeing yarn--skein, package, and spin-dyeing--are briefly described. 13 refs.

NEW SPRING NEEDLE MACHINE FOR CARPETS. C. Reichman. Knitted Outerwear Times 29: 3, 5, 28-29 (Nov. 14, 1960). (4843)

Features of the Tompkins Bros. Co. circular spring beard needle machines for knitted carpets are described and illustrated.

LATEST DEVELOPMENTS IN ORLON SAYELLE FOR KNITWEAR. G. J. Brehm and R. A. Wells (E. I. du Pont de Nemours & Co.). Knitted Outerwear Times 29: 21, 23 (Nov. 7, 1960). (4844)

NEW DIMENSIONS IN ORLON FOR SWEATERS, KNIT YARDGOODS. G. J. Brehm (E. I. du Pont de Nemours & Co.). Knitted Outerwear Times 29: 17, 19, 23 (Nov. 7, 1960). (4845)

KNITTING TRICOT FABRIC OF DU PONT NYLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 4 p. Bull. N-133 (replaces Bull. N-37). Free. (4846)

Optimum machine settings are discussed.

AUTOMATIC NARROWING OF GARMENT PARTS ON DUBIED BARB. J. B. Lancashire. Knitted Outerwear Times 29: 7, 29, 32 (Nov. 28, 1960). (4847)

PURCHASE OF DOUBLE JERSEY EQUIPMENT. C. Reichman. Knitted Outerwear Times 29: 3-7 (Oct. 31, 1960). (4848)

Factors to consider in the purchase of circular double jersey machinery are discussed. Checklist.

WEIFFENBACH MODEL MVA AUTOMATIC V-BED FLAT MACHINE. Walter Weiffenbach Textil Maschinenfabrik. Knitted Outerwear Times 29: 33 (Oct. 10, 1960). (4849)

FUNCTIONING OF WEVENIT A24 CIRCULAR YARD-GOODS MACHINE. Dubied. Knitted Outerwear Times 29: 29, 31 (Oct. 10, 1960). (4850)

MANUFACTURE OF DOUBLE JERSEY YARDGOODS. C. Reichman. Knitted Outerwear Times 29: 3-27 (Oct. 10, 1960). (4851)

A tabulation of circular double jersey yardgoods machines giving model; diameter, feed, cut; stitch scope; design mechanism; and output rate.

KNITTING MACHINERY OPERATION VIA ELECTRONIC CONTROL. Knitted Outerwear Times 29: 21-25, 29, 72-73 (Oct. 17, 1960); 26, 72-74 (Nov. 21, 1960). Knitter 24: 31-34 (Nov. 1960). (4852)

A fully automatic production unit of 6 to 8 V-type Tailor knitting machines is electronically controlled in every detail. Control equipment consists of a design drafting board, a coding desk, a tape perforating desk, a tape reading cubicle and a master control cubicle. In addition there is an auxiliary control cubicle with each knitting machine. Features are described. The system is the development of Macqueen Cybernetics Ltd of London. Automatic production of complete garments (including sleeves, collars, etc.) in a single operating cycle is possible. Photos, diagrs.

KOMET CLUTCH PROBLEMS. K. O. Metz. Textile Inds. 124: 130-131 (Nov. 1960). (4853)

The advantages of new parts for overcoming clutch shifting problems on older machines are noted. Photo, diagrs.

YARN SPEED METERS FOR CONTROL OF KNITTING QUALITY. Knitted Outerwear Times 29: 37, 39 (Oct. 10, 1960). (4854)

Trade name and name of manufacturer, photograph, type of meter, method of functioning, and machines to which applicable are listed for six yarn speed meters.

AUTOMATIC NARROWING ON V-TYPE MACHINES. H. Stoll & Co. Hosiery Trade J. 67: 122-123 (Oct. 1960). (4855)

Under the Stoll patent (BP 846 636) loop transferring elements may be fitted at both extremities of the fabric so that it is possible to narrow at both selvages during the same stroke of the cam carriage. It is implied that the invention enables knitting and fashioning to take place during the same stroke of the carriage. Diagrs.

EUROPEAN KNITTING DIARY. R. Innes. Hosiery Trade J. 67: 127-132 (Oct. 1960). (4856)

Among the developments discussed are: hooked needle for replacing bearded needles on warp knitting machines; Claes RQ193 small diameter circular warp knitting machine for gas mantles, etc., and RA175/1 circular machine for bandages, etc.; VEB Diamant KJM power flat machine for gloves; Quartex F.N. single cylinder half-hose machine (Fabrique Nationale D'Armes de Guerre SA); and Uniplet JDa-34 electronically controlled seamless hosiery machine. Photos, diagr.

MACQUEEN TAILOR-KNITTING TECHNIQUE. Macqueen Cybernetics Ltd. Hosiery Trade J. 67: 96-106 (Oct. 1960). (4857)

The method of knitting employed on the tailor-knitting machine requires that the courses run vertically down the garment and not horizontally as in normal practice. This technique provides genuine three-dimensional fashioning with practically unlimited possibilities. The machine is electronically controlled in every detail. The operation of the machine is described in detail, and its potential is discussed. Photos, diagrs.

GRAU WEFT INLAY ATTACHMENT. Hosiery Trade J. 67: 120-122 (Oct. 1960). (4858)

The numerous fabric effects and textures possible by fitting a special weft inlay attachment to V-type machines are described and illustrated. Photos.

CHAIN SEAMING FULL-FASHIONED HOSIERY. Kayser-Roth Hosiery Co. Textile Inds. 124: 127-129 (Nov. 1960). (4859)

Word and picture presentation of an economical chain-seaming and inspection procedure. Photos.

HOSEXTENDER. Hosiery & Allied Trades Research Assoc. Hosiery Trade J. 67: 124-125 (Oct. 1960). (4860)

The Hosextender is an instrument for enabling finished hose lengths to be predicted, and for assisting with the control of welt lengths and splicing heights. Its construction and operation are described. Photos.

LACE ON MODERN RASCHEL MACHINES. PART 8. DESIGNING CURTAIN NETS. B. Wheatley (Nottingham & District Tech. Coll.). Man-Made Textiles 37: 55-57 (Oct. 1960). (4861)

TREND IS TO VARIETY IN FIBER TYPES. C. Reichman. Knitted Outerwear Times 29: 3-13 (Nov. 7, 1960). (4862)

Manmade fibers in knitwear are surveyed. Tables.

ROLAX YARN FEEDING DEVICE FOR CIRCULAR-KNIT HOSE MACHINES. Textile Mach. Works. Hosiery Trade J. 67: 112 (Oct. 1960). (4863)

The Rolax eliminates all variables that influence stocking lengths, welt irregularities when knitting raw yarns, and fabric rings due to underwound pirns or cones. It delivers both monofilament and multifilament yarn from 7 denier nylon to single 10s wool completely free of tension. Photos.

Fabrics C4

DESIGN IN WOVEN STRUCTURE. PART 95. CALCULATING COUNTS AND SETT FOR STITCH TWILLS AND HOPSACKS. D. C. Snowden. Wool Rev. 34: 21-22 (Sept. 1960). (4864)

PHYSICAL PROPERTIES OF NYLON TARPAULIN FABRICS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Nov. 1960. 1 p. Bull. N-136 (replaces Bull. N-104). Free. (4865)

DESIGNING OF PILE FABRICS. CHAPTER 12. CORDUROY. E. B. Berry. Textile Bull. 86: 74-78 (Nov. 1960). (4866)

Typical corduroy constructions are described and illustrated. Diagrs.

PROFIT CLUES IN INDUSTRIAL FABRICS. W. E. Hoffman. Modern Textiles Mag. 41: 63-70 (Nov. 1960). (4867)

Recent applications of manmade fibers in industrial fabrics are surveyed.

SEWING UTILITY AND WORK CLOTHING FROM FABRICS CONTAINING DU PONT FIBERS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 3 p. Bull. X-123 (replaces Bull. X-88). Free. (4868)

Techniques to achieve normal sewing speed with reduced needle heat and thread breakage, using threads of Dacron or nylon, are discussed.

HEAT PROTECTING PROPERTIES OF CLOTHING. A. Y. Dzhafarova. Tekhnol. Tekstil. Prom. No. 2 (15): 128-133 (1960). In Russian. Through BCIRA 40: 3594 (1960). (4869)

A brief review is made of the papers submitted at the conference held in Moscow from the 11th-13th November 1959 on the problems of developing protective clothing (for various working conditions and climates).

106 QUESTIONS AND ANSWERS RELATING TO TEXTILE FIBER PRODUCTS IDENTIFICATION ACT AND REGULATIONS. U. S. Federal Trade Commission, Division of Textiles and Furs, Washington 25, D. C. Mar. 10, 1960. 23 p. Available from Superintendent of Documents, Washington 25, D.C. 15¢. (4870)

NEW METHODS OF PRODUCING NONWOVEN TEXTILES. J. Dvorak. Melliand Textilber. 41, No. 8: 967-968 (1960). In German. Through BCIRA 40: 3491 (1960). (4871)

The new knitting machine Arachne (Hosiery Research Institute, Brno, Czechoslovakia) for the production of nonwoven textiles from card webs is provided with tubular needles with hooks at their ends which penetrate through the web and draw a loop of warp through the preceding stitch. The machine is provided with warp-tensioning means and with a device for removing and winding the finished material. Wadding, insulating, packaging, and lining materials can be produced.

MECHANICS OF THE CREASE RECOVERY OF FABRICS. PART 4. STRESSES ON SINGLE YARN WHOSE TWISTED ANGLE IS CHANGED BY BENDING. M. Suzuki. Kobunshi Kagaku 15: 647-653 (1958). Summary in Chem. Abstr. 54: 15945h (1960). (4872)

EFFECT OF AFTERTREATMENT, FINISHING, AND WEARING ON THE CHAIN LENGTH DISTRIBUTION IN REGENERATED CELLULOSE FIBERS. W. Bandel. Melliand Textilber. 41, No. 8: 1001-1006 (1960). In German. Through BCIRA 40: 3598 (1960). (4873)

The effects of bleaching, sunlight, repeated washing, and prolonged wear, as well as finishing with synthetic resins, on viscose rayon and, in some cases, on cotton were studied by means of chain-length distribution diagrams. A certain relationship was established between the proportion of long-chain material and the textile data. During wear tests, shirts from spun rayon were found superior to those of cotton. It is also shown that creaseproofing spun rayon fabrics can be effected without damage to the cellulosic material.

WEAVING OF SOFT-TWISTED ACETATE YARN. K. N. Murav'eva. Tekhnol. Tekstil. Prom. No. 2 (15): 68-74 (1960). In Russian. Through BCIRA 40: 3599 (1960). (4874)

Results are presented of a study on the effect of twist of cellulose acetate yarn on the physico-mechanical and wear properties of the fabric. The use of yarn (not lower than N 90) with 150-180 turns/m as warp and 100-120 turns/m as weft is recommended.

FINISHING D

CONCURRENT DYEING AND FINISHING OF CELLULOSIC FABRICS. AATCC Del. Valley Sect. Am. Dyestuff Reptr. 49: P810-P817 (Oct. 31, 1960). (4875)

A unique, practical single-step process has been developed for the simultaneous application of reactive dyes and alkaline-catalyzed urea-formaldehyde resins to cotton and viscose rayon. This results in fast brilliant dyeings having the desirable qualities of a wash-wear finish. The process results in a substantial increase in the color yield of the reactive dyes over conventional application methods for such dyes. The lightfastness of the reactive dyes is unaffected. Photos, tables, 8 refs.

FINISHING OF DOUBLE JERSEY FABRICS. C. Reichman. Knitted Outerwear Times 29: 3, 5 (Nov. 28, 1960). (4876)

Calendering, steaming, full decating, and semi-decating.

MAKING WOOL A MORE USEFUL FIBER. B. C. M. Dorset. Textile Mfr. 86: 407-411 (Oct. 1960). (4877)

Among the developments in wool finishing to further improve its textile properties are: permanganate-salt anti-felting treatment; resin-hypochlorite shrinkproofing treatment (BP 821 135); shrinkproofing with copolymers of acrylates or methacrylates with 4-vinyl pyridine (BP 801 987); nonionic scouring; pilling control treatment (BP 823 048); and dyeing of blends consisting of wool and modified acrylic fibers with neutral premetalized dyes (BP 830 634).

DIFFERENCE TACHOMETER FOR THE TEXTILE INDUSTRY. G. Müller. Spinner u. Weber 78, No. 7: 469-471 (1960). In German. Through BCIRA 40: 3538 (1960). (4878)

Difference tachometers can be used in the textile finishing industry to indicate the extent of stretching or shrinking of a product on a certain machine by measuring continuously the difference between two velocities, number of revolutions, or lengths. The result is expressed as a percentage whereby, according to the ratio of the two values fed to the instrument, the difference may be positive or negative. The device can be driven by mechanical or electrical means. It can be fitted on Sanforizing and shrinking machines, tenters and mercerizing machines, etc. Special reference is made to its use on sizing machines where it indicates stretching of the warp yarn.

ADVANTAGES OF USING GAS-FIRED EQUIPMENT IN THE FINISHING AND DRYING OF TEXTILES. B. R. Andrews (Andrews & Goodrich Co.). Textile Bull. 86: 71-72 (Nov. 1960). (4879)

The applications and advantages of gas-fired equipment are described, and factors to be considered in converting to or purchasing new gas burning machinery are discussed.

Chemical processes D1

HIGH PRODUCTION AND BETTER QUALITY IN BLEACHING WITH SODIUM CHLORITE. J. C. Shah. Textile Dig. 20: 91-95 (Apr.-June 1959). (4880)

Advantages and disadvantages, the chlorite process, and the machinery used.

HYDROGEN PEROXIDE BLEACHING OF COATED FABRICS. S. A. Plaksin and others. Tekstil. Prom. 20, No. 2: 45-48 (1960). In Russian. Through BCIRA 40: 3497 (1960). (4881)

The method described is claimed to give a relatively high whiteness, high viscosity of the cuprammonium solutions of cellulose, and high tensile strength, and to remove dyes to a great extent.

FLAMEPROOFING OF CELLULOSE FIBER TEXTILES. PART 2. E. P. Frieser. SVF Fachorgan Textilveredlung 15, No. 7: 460-465 (1960). In German. Through BCIRA 40: 3542 (1960). (4882)

In supplementation of the previously published review (abstr. 3774/59), the author summarizes the experiences gained in the meantime by using metal halides, metal oxides, phosphorus compounds, aziridinyl compounds, urea/phosphoric acid systems and other organic compounds as flameproofing agents. 19 refs.

BLEACHING OF COTTON FABRICS BY MEANS OF SODIUM CHLORITE. J. Gajda. Przeglad Wlok. 14, No. 4 (1960). Bull. Inst. Wlok. 12, No. 2: 5-8 (1960). In Polish. Through BCIRA 40: 3496 (1960). (4883)

Various techniques of bleaching cotton fabrics with sodium chlorite are reviewed, with special reference to the use of activators, corrosion problems, and the degree of fiber tendering. The latter is decisively affected by the pH of the bath (discontinuous bleaching). When bleaching by the impregnation/steaming method, the degree of tendering at the usual concentration of chlorite (15 g/l) is within the normal limits. The risk of damage arises at a concentration of 30 g/l. Prebleaching with hydrogen peroxide has the purpose of preparing the fabric for dyeing and is not comparable with the bleaching process as a result of which the seedcoat is removed from the fabric and a good white is obtained.

STABILIZER IN HYDROGEN PEROXIDE BLEACHING. D. M. Cates and W. H. Cranor (N. C. School of Textiles). Textile Research J. 30: 848-855 (Nov. 1960). (4884)

Stabilized hydrogen peroxide decomposed at a slower rate than unstabilized peroxide and, for a given amount of decomposition in the presence of cellulose fabric, was more effective in raising reflectance and causing chemical damage. The ratio of reflectance to reduction of viscosity, however, was the same, suggesting that damage to cellulose is unavoidable and related to the amount of colored impurities destroyed. This ratio is dependent on the history of the fiber. Graphs, tables, 3 refs.

SODIUM CHLORITE BLEACHING. PART 1. DECOMPOSITION STUDIES. H. Hefti (N. C. School of Textiles). Textile Research J. 30: 861-867 (Nov. 1960). (4885)

The activation action on chlorite solutions of esters and hydrolyzable salts was investigated. All activators tested gave small amounts of oxygen. The amounts of decomposed chlorite used for oxygen formation generally lie between 6% and 9% of the decomposed chlorite and are only slightly affected by pH. Photo, graphs, tables, 7 refs.

SODIUM CHLORITE BLEACHING. PART 2. BLEACHING STUDIES. H. Hefti (N. C. School of Textiles). Textile Research J. 30: 867-872 (Nov. 1960). (4886)

The reported work shows that neutral chlorite solutions give acceptable bleaching at temperatures of 100° C and higher. At temperatures below 100° C, however, bleaching can be improved by addition of different activators. Practically no tendering occurs. Corrosion in the part of the bleaching apparatus exposed to liquids is almost completely eliminated by addition of sodium nitrate to the bleach liquor. Corrosion in the part of the bleaching unit exposed to gases can be reduced with activators that liberate practically no chlorine dioxide or with ammonium salts that act by neutralizing chlorite solutions. Graphs, table, 16 refs.

THE USE OF VELAN PF AND VELAN NW IN THE PRODUCTION OF DURABLE OIL- AND WATER-REPELLENT FINISHES ON TEXTILES. Imp. Chem. Inds. Ltd. Manchester. 1960. 4 p. Technical information, dyehouse no. 571. Available from Arnold, Hoffman & Co., 55 Canal St., Providence, R. I. (4887)

KARBON PRODUCTS FOR THE TEXTILE INDUSTRY. B. Maric. Tekstil 9, No. 7: 567-569 (1960). In Serbocroat. Through BCIRA 40: 3529 (1960). (4888)

Two new textile finishes, resistant to washing, were developed by the Karbon Co., Zagreb. They are: Textocel I for cellulosic fibers, and Textocel II for cotton, silk, synthetic fibers, and wool. The properties and application of these products are briefly discussed.

HEAT TREATMENT OF ORLON ACRYLIC FIBER TO RENDER IT FIREPROOF. W. G. Vosburgh (E. I. du Pont de Nemours & Co.). Textile Research J. 30: 882-896 (Nov. 1960). (4889)

A method for preparing a black, fireproof textile fiber candidate (called Fiber AF) from Orlon is described. Fiber AF is prepared by heat treating fibers or fabrics of Orlon, preferably the latter, in air at temperatures in excess of 160° C. The logarithm of the reaction time is inversely proportional to the heating temperature. The important variables found in the process were heating time and temperature, fabric construction, and heating atmosphere. Fiber AF is fireproof and has an unusually high resistance to destruction upon short-time thermal irradiation. Fiber AF can resist thermal irradiation over 100-fold higher than ordinary clothing fabrics. Upon continued exposure to high temperatures, Fiber AF gradually loses its tensile properties. At 900° C, it is completely consumed in 3 hr. While Fiber AF has fair tensile properties, its transverse properties are poor, excluding its possible utility in various types of fireproof garments where good abrasion resistance is required. Photo, diagr, graphs, tables, 10 refs.

STUDY OF FLUOROCARBON FINISHES AND THEIR EFFECT ON DYESTUFFS. AATCC Rhode Island Sect. Am. Dyestuff Reptr. 49: P818-P823, P827 (Oct. 31, 1960). (4890)

The purpose of this project was to study the compatibility of fluorocarbons with various finishing agents; their effect upon the physical properties of the treated fabrics; their effect upon shade and colorfastness of dyestuffs; and the effect of dyestuffs upon oil repellency of the fluorocarbon finishes. Tables, 12 refs.

SETTING WOOL TEXTILES WITH ETHANOLAMINE. N. H. Koenig, W. L. Wasley, and C. E. Pardo, Jr. (Western Reg. Research Lab.). (Letter to the editor). Textile Research J. 30: 901-902 (Nov. 1960). (4891)

The highly effective setting of creases and pleats in wool textiles by steam pressing fabrics treated with very dilute solutions of ethanolamine is reported. Table, 5 refs.

PERMANENT FINISH ON COTTON FABRICS, OBTAINED BY MEANS OF COLLOIDAL SOLUTIONS OF MELAMINE-FORMALDEHYDE RESINS. P. V. Moryganov, B. N. Mel'nikov, S. I. Kudryavtsev, and R. S. Ovchinikova. Tekhnol. Tekstil. Prom. No. 2 (15): 91-96 (1960). In Russian. Through BCIRA 40: 3535 (1960). (4892)

It is shown that colloidal methazine solutions can be obtained by introducing into the precondensate organic acids, especially acetic, and keeping the acidified solution for 4-5 hr. The colloidal solutions give wash-resistant finishes on cotton fabrics at 100° C. The presence of this finish on fabrics dyed with sulfur dyes increases the wet-crocking fastness of the dyeings.

POLYMERIZATION AND CONDENSATION REACTION OF N-METHYLOL ACRYLAMIDE WITHIN COTTON FABRIC. H. Kamogawa, R. Murase, and T. Sekiya (Textile Research Inst. Japanese Govt.). Textile Research J. 30: 774-781 (Oct. 1960). (4893)

This paper describes the observed results of the polymerization and condensation reactions of N-methylolacrylamide within cotton fabric and discusses the effect on such physical properties as crease resistance, tear strength, and abrasion resistance of the treated fabric. The effect of catalyst type and additives in the treating bath on these properties was also studied. Graphs, tables, 5 refs.

REACTION OF COTTON CELLULOSE WITH EPOXIDES IN THE PRESENCE OF ACID CATALYSTS. J. B. McKelvey, B. G. Webre, and R. R. Benerito (So. Reg. Research Lab.). Am. Dyestuff Reptr. 49: 804-809 (Oct. 31, 1960). (4894)

The objectives of the present work were: to ascertain the effect of hydrogen ion on cellulose-epoxide reactions at room temperature using common epoxy compounds; to find out which of the common epoxides will add to cotton under acid conditions; and to compare the various methods of catalysis with regard to production of cotton with high crease resistance. Ease of reaction in the presence of hydrogen ion catalysts and Lewis acids is considerably different than results obtained previously with base catalysis. Only a few monoepoxides add to cotton in the presence of cold dilute mineral acid. Diepoxides tested were also rather inert in the presence of hydrogen ion. Under conditions of cationic catalysis (Lewis acid), especially with zinc fluoborate, it has been found that only two monoepoxides react with cotton. In the case of diepoxides, it was shown that crease resistance may be imparted to cotton at very low add-on by butadiene diepoxide, and that several diepoxides tested while producing good enough add-on failed to impart dry crease resistance. When epoxides which are known to add to cotton by zinc fluoborate catalysis are reacted under optimum conditions of base catalysis, it was found that the base-catalyzed samples exhibited only good wet crease resistance. Tables, 26 refs.

COMPARATIVE INVESTIGATIONS INTO WET AND DRY CREASEPROOFING FINISHES. W. Döcke. Deut. Textiltech. 10, No. 7: 354-357 (1960). In German. Through BCIRA 40: 3531 (1960). (4895)

The investigations, carried out with 8 different precondensates on cotton poplins, showed a distinct relationship between the type of yarn used, the fabric structure, and the finishing effect. The results are presented in graphs.

NOVEL APPLICATIONS OF GLYCERINE AND ITS COMPOUNDS. G. Machell. Textile Mfr. 86: 412-415 (Oct. 1960). (4896)

The steadily increasing use of glycerine and its derivatives in the textile finishing industry is surveyed. 30 refs.

BETA-GAGE CONTROLLERS CUT FABRIC COATING WASTE. L. E. Taylor (Ekco Electronics Ltd). Control Eng. 7: 153 (Nov. 1960). (4897)

Trial runs of beta-gage controllers on leathercloth coating machine reveal 80% reduction in rejected material and more economical use of coating paste. Diagrs.

POLYMERIZATION AND CONDENSATION OF N-METHYLOL ACRYLAMIDE WITHIN COTTON FABRICS. H. Kamogawa, R. Murase, and T. Sekiya. J. Soc. Textile Cellulose Inds. Japan 16, No. 7: 549-555 (1960). In Japanese (English summary). Through BCIRA 40: 3534 (1960). (4898)

Different catalysts (KPS, APS, H_2O_2 polymerization catalysts; NH_4Cl and $(NH_4)_2 HPO_4$ acid condensation catalysts) were investigated, mainly from the point of view of the crease recoveries of the treated fabrics. The results are summarized.

RESIN FINISHING OF CELLULOSE FIBERS. PART 3. STUDIES ON THE CONDITION OF THE RESIN BATH. PART 4. STUDIES ON THE DEGREE OF SQUEEZING OF RESIN AND PREHEATING. M. Yajima and K. Arakawa. J. Soc. Textile Cellulose Inds. Japan 16, No. 7: 584-590 (1960). In Japanese (English summary). Through BCIRA 40: 3533 (1960). (4899)

Viscose rayon fibers were treated with melamine resin and the effects of (1) temperature, catalyst, pH and padding time, and (2) degree of squeezing and temperature of preheating were examined. The results are summarized.

POLYMERIZATIONS WITHIN WOOL FIBERS. A. Schöberl and D. Wagner. Melliand Textilber. 41, No. 8: 984-988 (1960). In German. Through BCIRA 40: 3536 (1960). (4900)

Experiments are described, in which acrylonitrile and methylmethacrylate were polymerized in wool fibers. The reaction mechanism, separation of the keratin and the polymers, and effect of catalysts are discussed. 38 refs.

TABLE OF TEXTILE ASSISTANTS. St. Jost. Textil-Rundschau 15, No. 7: 380-389 (1960). In German. Through BCIRA 40: 3509 (1960). (4901)

In continuation and conclusion of the previous parts, crease- and shrinkproofing, flameproofing, water repellent, antistatic, delustering, and various other finishing agents (gas fading inhibitors, emulsifiers, foam-inhibitors, coating agents, and drycleaning agents) are included in the list of textile assistants.

RELATION BETWEEN CRYSTALLITE ORIENTATION AND MECHANICAL PROPERTIES OF MERCERIZED COTTONS. B. R. Shelat, T. Radhakrishnan, and B. V. Iyer (Ahmedabad Textile Ind. Research Assoc.). Textile Research J. 30: 836-842 (Nov. 1960). (4902)

Bundles of cotton fibers have been mercerized at various controlled stretches. The x-ray orientation factor, static elastic modulus, and load-extension behavior of these fibers have been determined. The effect of changes in fine structure on changes in mechanical properties is discussed in terms of the above data. Graphs, 10 refs.

METALIZATION OF TEXTILES. E. P. Frieser. Prakt. Chem. 11, No. 7: 232-237 (1960). In German. Through BCIRA 40: 3541 (1960). (4903)

Three methods for the metalization of fabrics (cathode-atomization, spraying, and high-vacuum vaporization) are briefly described; the properties of various metalized fabrics are reviewed, and their trade-names are enumerated.

CONSTITUTION AND IMPORTANCE OF PHOSPHATES IN THE LAUNDRY AND IN TEXTILE FINISHING. M. Kehren. SVF Fachorgan Textilveredlung 15, No. 7: 475-483 (1960). In German. Through BCIRA 40: 3605 (1960). (4904)

In this review, the author discusses the chemical structure of phosphates and special properties, and applicability of simple and condensed (polymeric) phosphates.

PARTIALLY CROSS-LINKED VISCOSE RAYON NITRATE. T. Fujimura and S. Okamoto (Kokoku Rayon & Pulp Co. Ltd). (Letter to the editor). Textile Research J. 30: 796-797 (Oct. 1960). (4905)

The effects of partial acetalization combined with nitration on wrinkle recovery and water resistance of viscose are reported. It is concluded that if cross-linking and nitration are appropriately combined, improvement of these properties is possible.

PREPARATION OF PARTIALLY BENZHYDRYLATED COTTON CELLULOSE. D. J. Stanonis and W. D. King (So. Reg. Research Lab.). (Letter to the editor). Textile Research J. 30: 802-803 (Oct. 1960). (4906)

INTRODUCTION TO WASH-AND-WEAR FINISHING. A. Manich-Oliva and E. Gambus-Gabarro. Tintoreria Ind. No. 51: 71-79 (Mar. 1960); No. 52: 103-130 (Apr. 1960). In Spanish. Through BCIRA 40: 3530 (1960). (4907)

In this review, the authors discuss the actual state of the wash-and-wear finishing technology, and the possibilities of and conditions necessary for obtaining satisfactory finishes on cotton fabrics.

SYSTEMS OF RAW WOOL SCOURING AND THEIR EFFECTS ON DYEING. A. J. Ryan (Laconia Woollen Mills, Melbourne). Textile J. Australia 35: 783-789 (Sept. 20, 1960). (4908)

21 refs.

KEY CONTROLS IN SHRINKPROOFING WOOL BY CHLORINATION. Geigy Chem. Corp. Textile Mfr. 86: 416 (Oct. 1960). (4909)

The theoretical basis for the chlorination process is briefly explained, and the Geigy method of controlling the rate of chlorination is described.

CONTINUOUSLY OPERATING ROPELESS WASHING MACHINE. H. Kisteneich. Z. ges. Textil-Ind. 62, No. 15: 608-609 (1960). In German. Through BCIRA 40: 3494 (1960). (4910)

The construction of the machine and its mechanism are described. The fabric pieces to be washed are sewn together and fed to the machine in the batched state to pass in full width first through the soaping trough where they are wetted with the detergent. The wetted fabric is then transported to the washing trough, where prewashing is effected within 5-15 min, fed to the first rinsing installation, then to the second washer and from there to a second rinser, and is subsequently conveyed to a folding and taking-off device. With one person attending to it, the machine has an output ranging from 5 to 15 m/min, depending upon the fabric weight and degree of soiling.

USE OF ULTRASONICS FOR THE PREPARATION OF EMULSIONS. A. G. Lifshits. Tekstil. Prom. 20, No. 1: 52-56 (1960). In Russian. Through BCIRA 40: 3523 (1960). (4911)

Experiments carried out by using magnetostrictive and quartz emitters on laboratory equipment and ultrasonic hydrodynamic generators under industrial conditions are described, and the properties of the emulsions are discussed. The method can also be used in other processes, e.g. dye dispersion.

DESIZING: WHAT CONDITIONS ARE BEST? F. J. DiCarlo, R. J. Coleman, and P. T. Horeisch (Fleischmann Labs.). Textile Inds. 124: 77-79 (Nov. 1960). (4912)

Experimental results on the effect of factors such as time, temperature, pH, and enzyme concentration as related to the efficiency of the desizing process are presented. Graphs, 5 refs.

AUTOMATIC CONTROL OF DETERGENT STRENGTH. Electronic Switchgear Ltd. Dyer 124: 655 (Oct. 21, 1960). (4913)

The difficulty in effectively regulating the strength of detergent in a washing solution by a control system based on the continuous automatic measurement of the electrical conductivity of the washing solution is discussed. A typical arrangement is described. Diagr.

Dyeing and printing D2

PRINTING OF EXCESSIVELY WIDE TEXTILES. H. Schönefeld. Deut. Textiltech. 10, No. 7: 358-363 (1960). In German. Through BCIRA 40: 3526 (1960). (4914)

A screen printing method for very wide woven and nonwoven materials (1.7 m) is described, with special reference to the construction and size of the printing stage, preparation of the fabric, dye groups used, special problems involved, designing of patterns, and suitable work organization.

DRYING IN SCREEN PRINTING. F. Lewisch. Melliand Textilber. 41, No. 8: 996-997 (1960). In German. Through BCIRA 40: 3527 (1960). (4915)

Various drying systems are reviewed, and the advantages of heating the printing tables themselves according to an adjustable and controllable system are enumerated.

PRESENT STATE OF STENCIL MATERIALS. T. Schreus. Melliand Textilber. 41, No. 8: 951-956 (1960). In German. Through BCIRA 40: 3525 (1960). (4916)

In this review, the author discusses the screen printing process, various types of screen material: metal-wire, silk and synthetic-fiber gauze, and standardization of the screen gauze.

PACKAGE DYEING OF HIGH BULK ORLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 8 p. Bull. OR-108. Free. (4917)

The du Pont sponge-core package-dyeing process and a stress-bulking technique for yarns are described.

FUNDAMENTAL PROBLEMS OF JIG DYEING. F. Martin and P. K. Woodward (Can. Celanese Ltd). Can. Textile J. 77: 39-40 (Oct. 28, 1960). (4918)

A new theory is given to explain the origin of endiness and side to center shading in jig dyeing. The basis of the theory is differential diffusion through the jig roll due to variable dye affinities and fabric tensions. By using this new concept several ways of overcoming these faults are suggested.

PACKAGE DYEING YARNS OF ACRILAN, ACRILAN 16, AND ACRILAN 16-ACRILAN BLENDS. Chemstrand Corp., Decatur, Ala. Nov. 1960. 8 p. Bull. DF-15. Free. (4919)

APPLICATION OF CALEDON (VAT) DYESTUFFS BY THE PAD/JIG, PAD/STEAM, AND STANDFAST MOLTEN METAL PROCESSES. J. A. Fowler. Textile Dig. 19: 183-192 (Oct.-Dec. 1958). (4920)

STUDIES ON THE DYEING PROPERTIES OF ACID AZO DYES. PART 6. CONDUCTIVITY OF FREE DYE ACID SOLUTIONS. T. Iijima and M. Sekido. J. Soc. Textile Cellulose Inds. Japan 16, No. 7: 571-574 (1960). In Japanese (English summary). Through BCIRA 40: 3503 (1960). (4921)

The conductivity of three dye acid solutions (naphthionic acid → β-naphthol, α-naphthylamine → G acid, and naphthionic acid → G acid) was measured at 25, 50, and 90° C.

WHY ARE SUBSTANTIVE DYES SUBSTANTIVE? PART 2. BEHAVIOR OF DYES IN ELECTROLYTE-FREE SOLUTIONS. A. Schaeffer. Melliand Textilber. 41, No. 8: 988-992 (1960). In German. Through BCIRA 40: 3506 (1960). (4922)

An investigation was made into the dyeing behavior of azo dyes with acid groups only, with an equal amount of acid and basic groups, and with basic and a larger number of acid groups in electrolyte-free solutions. It was found that only dyes which, owing to their chemical constitution, are able to form isoelectric micelles, are adsorbed by the cellulose fibers in measurable quantities. For Part 1 see abstr. 3367/58.

STUDIES ON THE ABSORPTION SPECTRA OF DYES. PART 9. ON THE CHANGES OF ABSORPTION CURVES DUE TO EXPOSURE OF AQUEOUS SOLUTIONS OF DYES TO LIGHT. Y. Ishii and M. Shimada. J. Soc. Textile Cellulose Inds. Japan 16, No. 7: 579-583 (1960). In Japanese (English summary). Through BCIRA 40: 3507 (1960). (4923)

The behavior of Benzo Azurine G, a copper-complex dye derived from it, and Congo Red was studied.

DYEING OF BLACK SHADES ON SYNTHETIC FIBERS AND THEIR UNIONS. Imp. Chem. Inds. Ltd. Manchester. 1960. 25 p. Technical information, dyehouse no. 560. Available from Arnold, Hoffman & Co., 55 Canal St., Providence, R.I. (4924)

DYEING AND FINISHING OF CELLULOSE ACETATE AND ACRYLIC FIBERS, WITH SPECIAL REFERENCE TO DICEL, TRICEL, AND COURTELLE. J. Boulton. Ingenieria Textil 27: 200-213 (May/June 1960). In Spanish. Through BCIRA 40: 3513 (1960). (4925)

DYEING PROPERTIES OF SOME TYPICAL VAT DYES. Y. Matsumoto. Kasei-gaku Zasshi 11: 14-21 (1960). Through Chem. Abstr. 54: 16836e (1960). (4926)

PREPARATION AND PROPERTIES OF ACID MONOAZO DYES. L. N. Nikolenko and others. Zhur. Priklad. Khim. 33, No. 7: 1617-1623 (1960). In Russian. Through BCIRA 40: 3504 (1960). (4927)

Experiments showed that the wetfastness of dyeings (on wool and Kapron) with analogues of acid dyes increases with increasing aliphatic chain while, at the same time, their fastness to rubbing, light, and weather decreases. With the aliphatic chain increasing to 10-12 carbon atoms, the selectivity of the dyes increases whereas their leveling power decreases. The fastness of the dyeings was found to depend upon the size of the aliphatic residue and not on its structure.

DYEING OF SYNTHETIC FIBERS. PART 8. V. F. Androsov and A. A. Kharkharov. Tekhnol. Tekstil. Prom. No. 2 (15): 97-100 (1960). In Russian. Through BCIRA 40: 3514 (1960). (4928)

The diffusion coefficients in Kapron polyamide fiber, polyamide films, and in the solution of two leuco-esters of vat dyes were determined at various temperatures and various electrolyte concentrations. In the absence of dispersing agents, the diffusion coefficients in polyamide fibers were much smaller than those of direct dyes and leuco-compounds of vat dyes in cellulosic fibers. On introducing dispersing agents into the dyebath, the diffusion coefficients of leuco-esters of vat dyes increase only to a certain maximum and then decrease. Additions of dispersing agents of the OP-10 type increase the dyeing rate of Kapron and wool when using leuco-esters of vat dyes.

THEORETICAL AND PRACTICAL CONSIDERATIONS RELATING TO THE DYEING OF POLYESTER FIBERS, PARTICULARLY BY MEANS OF CARRIERS. P. Rochas. Rayonne et Fibres Synthet. No. 7: 750-757 (July 1960). In French. Through BCIRA 40: 3518 (1960). (4929)

The dyeability of polyester fibers is discussed, with special reference to three means for increasing the diffusion of dyes in the fiber: (1) by decreasing the molecular dimensions of the dye, (2) by using high temperatures, and (3) by using carriers. Phenomena observed with carriers of the diphenyl, orthophenylphenol, and methyl salicylate type are described.

PRACTICAL ASPECTS OF DYEING WITH PROCINYLS. S. Blackburn (Imp. Chem. Inds. Ltd). Man-Made Textiles 37: 77-80 (Oct. 1960). (4930)

Reactive dye systems overcome one of the basic problems of dyeing, that is, to achieve good leveling and yet obtain good wetfastness properties. This is made possible by utilizing a 2-stage process carried out in a single bath, the first stage involving exhaustion and leveling in an acid medium, and the second involving chemical fixation in alkaline medium. Details of a typical process are presented. Swatches, graph, table.

NEW DEVELOPMENTS IN JIG DYEING. F. Schmidt. Z. ges. Textil-Ind. 62, No. 15: 610-611 (1960). In German. Through BCIRA 40: 3500 (1960). (4931)

The construction and mechanism of the universally applicable Benteler jig are described.

FAST LEVEL SHADES ON CONTINUOUS FILAMENT NYLON FABRICS. Textile Develop. Dept., British Nylon Spinners Ltd, Pontypool, Monmouthshire, England. Oct. 1960. 3 p. Advance report no. 31. (4932)

RECENT ADVANCES IN DYEING PROCESSES FOR WOOL. G. G. Simpson. Textile Dig. 20: 85-89 (Apr.-June 1959). (4933)

KINETICS OF WOOL DYEING--SOME EFFECTS OF ALCOHOLS ON WOOL DYEING RATES. J. A. Medley (Wool Inds. Research Assoc.), and M. W. Andrews (C.S.I.R.O. Wool Research Labs.). Textile Research J. 30: 855-860 (Nov. 1960). (4934)

The action of alcohols in the solvent dyeing of wool is considered and, from an analysis based on the diffusion characteristics of the fiber, the increased dyeing rates obtained are attributed largely to faster movement of the dye within the fiber. The reduced resistance to dye diffusion within the fiber is associated with the presence of the alcohol during the diffusion process and also with the removal of greasy material from the interior of the fiber by the alcohol-water phase. Graphs, table, 17 refs.

SUSPENSION DYEING OF COTTON AND VISCOSE FABRICS. K. M. Shostko. Tekstil. Prom. 20, No. 1: 50-52 (1960). In Russian. Through BCIRA 40: 3511 (1960). (4935)

It is shown that this method of dyeing (in which the acid dye reacts with barium chlorite and forms a water-insoluble dye salt and, owing to its hydrogen bonds, the barium salt is then adsorbed from the solution on the fiber) improves the quality and reduces the dyeing time, increases the productivity by 30%, and reduces steam and power consumption.

SUSPENSION DYEING OF KNITTED FABRIC. I. I. Rozinskaya. Tekstil. Prom. 20, No. 2: 48-50 (1960). In Russian. Through BCIRA 40: 3512 (1960). (4936)

With some dyes (in the method described in the previous abstract) magnesium chloride gives better results than barium chloride. Optimum concentrations of barium chloride and dye were determined in the laboratory and in industrial experiments. The optimum temperature ranges from 40-45° C; at this temperature, the dye is kept in the solution in highly-dispersed state.

DYEING OF WARP BEAMS. W. Franke. Textil-Praxis 15, No. 7: 725-727 (1960). In German. Through BCIRA 40: 3501 (1960). (4937)

Problems involved in warp beam dyeing are discussed. For the preparation of dyed warps, the following machines can be used successfully: warping machine, model EZD (Schlafhorst); sizing machine, model EMTE (Gebr. Sucker), and dyeing equipment of various sizes and constructions (B. Thies).

FASTNESS OF TEXTILES TO BURNT GAS FUMES. E. Stanley (Brit. Celanese Ltd). Dyer 124: 621 (Oct. 21, 1960). (4938)

Methods of increasing the resistance of cellulose acetate to gas fading by the use of resistant dyes, inhibitions, and partial saponification, as well as that to fading caused by ozone, are discussed.

MODERNIZATION OF DYEING/WASHING INSTALLATIONS. A. A. Staroskol'skii. Tekstil. Prom. 20, No. 2: 50-53 (1960). In Russian. Through BCIRA 40: 3499 (1960). (4939)

The installation, described and illustrated, makes it possible to increase the productivity by 15-20% and to improve the dyeing quality, levelness, and color of the fabric at a reduced dye consumption (by 30-40%). Consumption of water and steam is also reduced, and the dyeing and rinsing temperature is controlled automatically.

DIRECT DYEING OF CELLULOSE. PART 9. RELATION BETWEEN THE DYEING PROPERTIES AND THE CONJUGATED SYSTEM OF DOUBLE BONDS (3). K. Nishida. J. Soc. Textile Cellulose Inds. Japan 16, No. 7: 575-578 (1960). In Japanese (English summary). Through BCIRA 40: 3510 (1960). (4940)

The absorption isotherms of Zambesi Black D and aniline → p-cresidine → γ-acid were determined.

SPRAY PRINTING: NEW METHOD TO APPLY PATTERNS. B. F. Goodrich Chem. Co. Textile Bull. 86: 68-70 (Nov. 1960). (4941)

In the decorative spray process, liquid vinyl plastic is sprayed on textiles in abstract swirls, random line, or spatter designs. On heating in an oven, the vinyl fuses to the fabric in permanent patterns or textures that withstand washing and drycleaning. The fabric's hand remains practically unaltered. Vinyl plastisols, vinyl latices, or nitrile latices may be used. Typical formulations are given, and the varying merits of the different systems are noted.

PRINTING TERYLENE/WOOL BLENDS WITH VAT DYESTUFFS. P. Krug, D. Horrocks, and S. Entwistle (Hardman & Holden, Ltd). Skinner's Silk & Rayon Record 34: 972-974 (Oct. 1960). (4942)

The impracticability of printing polyester/wool blends with mixtures of wool and disperse dyes is discussed, and it is pointed out that it is therefore preferable to use for printing only one class of dyestuff for the coloration of both fibers. Many vat dyes have affinity for both wool and Terylene if applied by the acid leuco technique. A modified Manofast process that has been developed for this purpose is described. Table, 4 refs.

REDUCING AGENTS RONGALITE C, RONGAL A, AND HYDROSULFITE IN PRINTING WITH VAT DYES. W. Klippers. Tex 19, No. 7: 428-434 (1960). In Dutch. Through BCIRA 40: 3522 (1960). (4943)

A comparison is made of various reducing agents used in printing with vat dyes, with special reference to the advantages resulting from the use of the 2-phase printing process, on the one hand, and the use of Rongal A, on the other.

HOW PRINT WORKS AGERS OPERATE. PART 2. ACID AGERS. L. H. Ferguson (Wade Mfg. Co.). Textile World 110: 94-95 (Nov. 1960). (4944)

Acid aging is used primarily to bring about the coupling of the components of stabilized azoic dyes. Successful and economical operation of acid agers depends on two things: proper materials of construction and good control of time, temperature, and acid content of the steam.

SOME PROBLEMS OF THE KINETICS OF PRINTING UNITS IN FABRIC PRINTING MACHINES. K. D. Budanov. Tekhnol. Tekstil. Prom. No. 2 (15): 112-121 (1960). In Russian. Through BCIRA 40: 3524 (1960). (4945)

DEVELOPMENT OF CARRAGHEENATES AND THEIR USE IN CALICO PRINTING. H. Schulzen. Melliand Textilber. 41, No. 8: 992-995 (1960). In German. Through BCIRA 40: 3521 (1960). (4946)

Since carragheenates are completely stable to acids and in a high degree to alkali, do not react with metal ions, and are not decomposed by overheating, they are almost universally applicable in all printing processes and able to replace the classical tragacanth thickener to which they are in many cases superior as regards dye exhaustion, levelness, and removability by washing (for Part 1 see abstr. 3613/60).

EFFECT OF SUNLIGHT ON FABRICS FROM VISCOSE STAPLE FIBER. PARTS 2 AND 3. J. A. Legkun. Zhur. Priklad. Khim. 33, No. 7: 1636-1641 (1960). In Russian. Przeglad Wlok. 14, No. 4: 182-189 (1960). In Polish (translation from Russian). Through BCIRA 40: 3508 (1960). (4947)

The experiments described show that viscose staple fiber fabrics, dyed with direct dyes and treated or untreated with a fixing agent, are degraded to a lesser degree than white fabrics. With increasing concentration of the dye on the fiber, the lightfastness of the fabric increases. The fading products of the unfixed direct dye on the fabric were found to act as stabilizers of the of the chemical processes taking place in the lustrous viscose fiber exposed to light. Fixing of the dye increases the lightfastness of the fabric, as compared with the undyed sample and with similar dyed but unfixed fabrics 3-4.8 times and 1.8-2.0 times, respectively. A certain relationship was found between the irradiation intensity and the light degradation of the unfixed and fixed dyed samples, indicating the possibility of studying the laws of photochemical fabric degradation by means of the electronic irradiation meter. The results from dynamometric strength testing of the fabrics exposed to light are in agreement with spectrophotometric studies, so that the ultraviolet reflection spectra (300-400 mm) could be used as criteria for the degree of photochemical degradation of cellulosic fibers. For Part 1 see abstr. 3814/59.

Mechanical processes D3

DEVICE FOR CUTTING SYNTHETIC FABRICS. P. Kasperavichyus. Tekstil. Prom. 20, No. 2: 54-55 (1960). In Russian. Through BCIRA 40: 3493 (1960). (4948)

The device developed by the author for cutting and separating the edges of Kapron and similar manmade fiber fabrics consists of a knife (electrically heated), a reducing transformer, and a current limiter. It can also be used for cutting simultaneously several layers of fabric and bonding them subsequently.

AUTOMATIC GUIDANCE AND CONTROL OF FABRIC LENGTHS IN THE TEXTILE FINISHING PLANT. W. T. Swatek. Z. ges. Textil-Ind. 62, No. 13: 531-533; No. 15: 611-613 (1960). In German. Through BCIRA 40: 3537 (1960). (4949)

Automation of existing finishing machines by the attachment of fabric-guiding units is discussed and additional devices (selvage-straightener, stretching devices, cutting devices, etc.) to prevent damaging of the finished cloth are described.

RAISING EFFECT ON MACHINES WITH METALLIC TEASELS: EFFECT OF ADJUSTMENTS. M. Bona. Ann. Sci. Textiles Belges No. 1: 73-93 (1960). In French. Through BCIRA 40: 2915 (1960). (4950)

The purpose of this study was to establish the relationship between the raising effect and the mechanical adjustment of the raising machine, taking into account the velocity of the pile and counter-pile rollers and of the fabric and the raising intensity. The mathematical relationship is confirmed by experiments.

Drying, setting, conditioning D4

HEAT INSULATION OF DRYERS. R. Bockstael. Chemiefasern 10, No. 7: 446-448 (1960). In German. Through BCIRA 40: 3548 (1960). (4951)

The effect of heat insulation on the steam consumption is discussed, with a brief reference to the solution of the insulation problem by constructing dryers with double walls.

HIGH-OUTPUT KRANTZ MULTI-TIER TENTER WITH JET DRYING. P. Zanke. Can. Textile J. 77: 41-44 (Oct. 28, 1960). (4952)

Reprinted from Melliand 41, No. 2: 138-142 (1960).

TESTING AND MEASUREMENT E

COMPUTER FOR THE AUTOMATIC PROCESSING OF FIBER, YARN, AND FABRIC STRESS-STRAIN DATA. W. J. Thorsen (Western Reg. Research Lab.). Textile Research J. 30: 827-835 (Nov. 1960). (4953)

It is the purpose of this paper to propose a quantitative definition of the uncrimping, Young's modulus, and yield points, based on the mathematics of the stress-strain curve. A computer is described which, based on the above approach, automatically processes the stress-strain data obtained during tensile tests. Circuits are described for the simultaneous evaluation and storage of 21 or more parameters of the single wool fiber stress-strain curve with an accuracy which is limited primarily by the characteristics of the tensile tester used. Measurements of yarn and fabric tensile properties are also described. Photo, diagrs, graphs, tables, 6 refs.

Fibers E1

IDENTIFICATION OF UNKNOWN SYNTHETIC FIBERS. PART 4. REVISION, NEW FIBERS, CROSS SECTIONS. S. G. Smith (Security Mills). Am. Dyestuff Reptr. 49: 774-782 (Oct. 17, 1960). (4954)

The introduction of new fibers and modifications of some of the older ones has made necessary a revision of the scheme of analysis previously published. This paper is a revision to include these fibers, and also to illustrate their cross-sectional shapes. An attempt has been made to present a fairly comprehensive treatment of the application of chemical microscopy to the qualitative analysis of manmade textile fibers. Diagrs, graph, tables, 11 refs.

DEVICE FOR DETERMINING THE THERMOPLASTIC PROPERTIES OF SYNTHETIC FIBERS. Y. A. Mazov. Tekstil. Prom. 20, No. 2: 56-57 (1960). In Russian. Through BCIRA 40: 3563 (1960). (4955)

The apparatus is described, and its mechanism explained. It is used to study the behavior of synthetic fibers under various temperature conditions (tension, deformation, dynamic viscosity coefficient, drawing, etc.).

DEVICE FOR DETERMINING COTTON IMPURITIES. B. I. Roganov. Tekstil. Prom. 20, No. 1: 61-63 (1960). In Russian. Through BCIRA 40: 3556 (1960). (4956)

The impurity analyzer, described and illustrated, operates with sufficient accuracy, does not affect the quality of the cotton so that the latter can be returned for processing, and furnishes results in 1/3-1/4 of the time required by other testing devices.

LPS-4 DEVICE FOR RAPID DETERMINATION OF THE QUALITY OF RAW COTTON AND OF COTTON FIBER. A. P. Pan'kina. Tekstil. Prom. 20, No. 1: 59-61 (1960). In Russian. Through BCIRA 40: 3557 (1960). (4957)

The apparatus described operates on the principle of the air permeability of the material. It consists of 3 chambers arranged one above the other. A 20-g cotton sample is placed in chamber 1 of a standard volume; the chamber is closed by means of a lid, and by switching on a fan, a determined quantity of air (1.8 dm^3/sec), corresponding to the constant pressure drop in chambers 2 and 3, is passed through the cotton at constant working conditions, the exhaustion of air in chamber 2 changes in dependence of the resistance of the cotton sample to the air current passing through it. The resistance to the air current was found to be proportional to the total surface area of the cotton sample, this area increasing with decreasing quality of the cotton. Analysis of one cotton sample (4 measurements) can be effected within 6 min (including sampling and mixing).

RADIOACTIVITY IN WOOL. R. Kulwich and others (U.S. Dept. Agri.). (Letter to the editor). Nature 188: 511 (Nov. 5, 1960). (4958)

Gamma-ray measurements were made on raw and scoured wool. The scoured wool samples emitted a much lower gamma-ray radioactivity, and it is suggested that gamma-ray measurements may serve as an index for predicting the percentage of impurities present in grease wool and the relative proportions of the major impurities.

EXPERIMENTS ON UNEVENLY-ABSORBING REGENERATED CELLULOSE RAYON. E. Rockstroh. Deut. Textiltech. 10, No. 7: 363-364 (1960). In German. Through BCIRA 40: 3562 (1960). (4959)

The method proposed for the differentiation of skin-containing and skinless regenerated cellulose fibers is used to render visible less differentiated structural differences and to explain production faults. The sensitivity of Procion dyes was found to be of particular advantage. Ammonium copper oxide was used as swelling agent instead of the suggested sulfuric acid. Photomicrographs are given.

Yarns E2

TWIST FORMULA ACCORDING TO LAETSCH AND ITS USE. G. Porsche. Spinner u. Weber 78, No. 7: 482-484 (1960). In German. Through BCIRA 40: 3580 (1960). (4960)

The Laetsch formula for the calculation of twist is described and compared with the Koechlin formula, and logarithmic tables are given to simplify the use of the new formula. A special slide rule, the Twistor (developed by Hofmann) is also mentioned.

DETERMINATION OF THE RAW MATERIAL COMPOSITION IN YARN BY USING PHYSICAL METHODS. V. Wagner. Textil 15, No. 5: 167-169 (1960). In Czech. Through BCIRA 40: 2953 (1960). (4961)

DETERMINATION OF THE IRREGULARITY OF SPINNING PRODUCTS ON SECTIONS WITH VARIOUS LENGTHS. M. G. Frenkel. Tekhnol. Tekstil. Prom. No. 2 (15): 30-35 (1960). In Russian. Through BCIRA 40: 3578 (1960). (4962)

The relationship between the irregularity indexes calculated for sections of varying length and the linear value of these sections can be expressed by the formula: $C_x = C_s\sqrt{1 + (n-1)\bar{r}/n}$, where C_x is the irregularity (coefficient of variation) obtained for long sections of the spinning product x cm; C_s is the irregularity (CV) for short lengths s cm; n = the length ratio of these sections (n = x/s), and $\bar{r}$ the arithmetic mean of the correlation coefficients between all pairs of short sections contained in the long sections. The statistical considerations presented in this paper refer to the analysis of data from cotton spinning, but can be extended also to other spinning products.

NEW CHARACTERISTIC FOR EVALUATING THE USTER IRREGULARITY NUMBER OF YARNS. H. Köb. Melliand Textilber. 41, No. 8: 930-933 (1960). In German. Through BCIRA 40: 3577 (1960). (4963)

In the Uster Standard Tables for cotton yarns and in the recently published directions for chemical fibers (abstr. 3643/60) it is indicated that in 3-roller spinning the irregularity index I cannot be directly used for quality rating of the yarn. It appears to depend upon the yarn count and also upon its fineness. The present report shows that an independent index Z for the spinning quality can be obtained in a simple manner by means of the relationships: $I^2 = 1 + Z/U_{lim}$; $Z = U_{lim}(I^2 - 1)$; $U_{eff}^2 = U_{lim}(U_{lim} + Z)$. At a certain spinning quality Z, the whole series of the U_{eff} %-data to be expected can be derived from the number of fibers q in the cross-section.

Fabrics E3

DETECTION OF SURFACE-ACTIVE AGENTS IN TEXTILE FABRICS. Imp. Chem. Inds. Ltd. Manchester. 1960. 2 p. Technical information, dyehouse no. 569. Available from Arnold, Hoffman & Co., 55 Canal St., Providence, R.I. (4964)

SLIDE RULE IN TEXTILE INDUSTRY. A. J. Bennett. Textile J. Australia 35: 748-749 (Sept. 20, 1960). (4965)

Use of the slide rule in cloth setting and weight per yard calculations.

COMPARATIVE INVESTIGATIONS INTO THE AGREEMENT BETWEEN THE CONVENTIONAL WHITENESS DEGREE FORMULAS AND VISUAL EVALUATIONS. A. Kling and J. Kurz. Z. ges. Textil-Ind. 62, No. 15: 585-592 (1960). In German. Through BCIRA 40: 3597 (1960). (4966)

Ten washed and optically bleached white fabric samples were examined under various illumination and observation conditions by measuring the light emission and light reflection in the visible region of the spectrum. Their degree of whiteness was then calculated by using various formulas and compared with visual matching results. All the formulas showed good correlation with the exception of the brightness method and the degree of whiteness evaluation by Judd. The values obtained from measurements with the xenon lamp show the best correlation with the matching results.

SOME ASPECTS OF THE SCHIEFER ABRASION MACHINE. P. B. G. Upton and R. H. Bromley (Printing, Packaging & Allied Trades Research Assoc.). Wear 3: 388-393 (Sept./Oct. 1960). (4967)

The design of the Schiefer machine and some aspects of the action of a machine of this general pattern are considered. A possible theoretical improvement in design to permit more uniform rubbing with a wider variety of abradants is suggested. Photos, diagrs, 6 refs.

ACCELERATED MOISTURE MEASUREMENT IN TECHNICAL FELT. R. M. Trakhtenberg. Tekstil. Prom. 20, No. 2: 57-59 (1960). In Russian. Through BCIRA 40: 3602 (1960). (4968)

It is shown that the measurement can be effected by determining the electrical conductivity of the felt. The acid content in the felt has an insignificant effect on the accuracy of the results; with increasing acid content, the conductivity increases slightly. For moisture ranges of 10-20%, the measurement accuracy of the apparatus described is $\pm$ 0.6% for felts from coarse, and $\pm$ 1.43% for those from fine, wool.

CARPETS IN THE LABORATORY. T. H. Morton (Courtaulds Ltd). Man-Made Textiles 37: 58, 61 (Oct. 1960). (4969)

The aim of a laboratory examination is to give a forecast of wear behavior and present methods to give a reasonable account of carpet properties. The Bocking system of examination takes in structural details; durability; resilience; appearance retention; soiling properties; flammability; aging and fastness. The machines used and the performance of various carpet fibers are briefly noted. Photos.

Other E4

PAPER CHROMATOGRAPHIC SEPARATIONS OF DIRECTLY-ADSORBING CELLULOSE AND WOOL DYES. L. Meckel. Textil-Rundschau 15, No. 7: 353-374 (1960). In German. Through BCIRA 40: 3603 (1960). (4970)

Techniques, suitable papers, eluting agents, and arrangement of experiments are reviewed. Satisfactory results were obtained on weakly acetylated paper with a mixture of butyl acetate/pyridine/water. For special purposes, glass-fiber paper may be used. Experimental results obtained with various dyes are tabulated. 28 refs.

DYE FASTNESS IN PLEATING PROCESSES. H. R. Hadfield (Imp. Chem. Inds. Ltd). Textile Weekly 60 (2): 883 (Oct. 14, 1960). (4971)

Requirements for a test suitable for the assessment of dye fastness in pleating processes are discussed.

DETERMINATION OF COLORFASTNESS. Imp. Chem. Inds. Ltd. Manchester. 1960. 19 p. Technical information, dyehouse no. 570. Available from Arnold, Hoffman & Co., 55 Canal St., Providence, R.I. (4972)

ILLUMINATION FOR COLOR MATCHING. Imp. Chem. Inds. Ltd. Manchester. 1960. 4 p. Technical information, dyehouse no. 572. Available from Arnold, Hoffman & Co., 55 Canal St., Providence, R.I. (4973)

MILL MANAGEMENT F

SYSTEMS APPROACH: NEW KEY TO BETTER MILL PROFITS. W. F. Friedman (Dasol Corp.). Textile World 110: 45-49 (Nov. 1960). (4974)

The systems-management approach to inventory control is explained, and its application to a typical textile operation is described.

TAPERED INTEGRATION IN TEXTILES. H. R. Hamilton (Battelle Memorial Inst.). Textile Inds. 124: 95-96 (Nov. 1960). (4975)

Tapered integration is a type of backward integration through which a manufacturing corporation integrates facilities capable of producing goods consumed by its manufacturing operations. Its beneficial effects and pitfalls are analyzed.

U. K. COTTON TEXTILE INDUSTRY: SOME THOUGHTS ON REEQUIPMENT. A. Ormerod (Ashton Bros. & Co. Ltd). Textile Weekly 60 (2): 873, 877-878 (Oct. 14, 1960). (4976)

WE KNOW THE SCORE. W. Taber (Katherine Rug Mills). Textile Inds. 124: 80-82 (Nov. 1960). (4977)

A keysort system which provides production and inventory control, as well as market analysis data, is described. Photos.

Industrial engineering F1

BENEFITS OF QUALITY CONTROL TO A TEXTILE MILL. G. K. Nayar. Textile Dig. 19: 135-145 (July-Sept. 1958). (4978)

SAMPLING AND TESTING PLANS FOR MILL QUALITY CONTROL. PART 2. N. L. Enrick (Inst. Textile Technol.). Modern Textiles Mag. 41: 27-30 (Nov. 1960). (4979)

Sampling plans for convenient ready use by the mill, for sampling risks of 1 and 5%, are given. Using the allowable sampling errors or tolerances and the variation coefficients prevailing at each process, the mill can use these tables to develop its own sampling program for quality control. A typical laboratory testing program is demonstrated. Tables.

HOW TO CHECK YOUR MILL FOR SAFETY. E. W. Fair. Textile World 110: 66-68 (Nov. 1960). (4980)

Checklist for unsafe conditions and acts.

WORK STUDY IN A WOOLEN MILL WAREHOUSE. Textile Mfr. 86: 389-390 (Oct. 1960). (4981)

An outline of the control and bonus scheme devised for a woolen mill warehouse dealing with approximately 160 pieces for a 45 hr week.

TEXTILE WASTE TREATMENT: WHAT TO DO ABOUT IT. J. L. Brown, Jr. (Cannon Mills Co., Kannapolis, N. C.). Am. Soc. of Mechanical Engineers, 29 W. 39 St., New York 18, N.Y. 1960. 4 p. ASME paper no. 60-TEX-2. 80¢. (4982)

This paper discusses the textile-waste problem of the author's company and the methods employed to arrive at a solution. A brief description is given of the waste treatment facilities and modifications that have been made in the plant since its completion. Several operational problems that have been encountered at Kannapolis are considered and what was done to correct them.

MAINTENANCE RECORDS SIMPLIFIED. J. H. Boddie (Mount Vernon Mills, Inc.). Am. Soc. of Mechanical Engineers, 29 W. 39 St., New York 18, N.Y. 1960. 4 p. ASME paper no. 60-TEX-1. 80¢. (4983)

The analysis of facts accumulated by plants from operating experience is the basis upon which all progress in production efficiencies are made. The systems of recording data can often be monotonous and thereby become ineffective due to the routine methods generally employed. This paper describes briefly how one textile plant used an innovation in its record system to create interest in improving its maintenance program.

Plant and equipment F2

SYNCHRONIZATION OF MACHINES IN THE CASE OF SENSITIVE MATERIAL. G. Schellenberger. Melliand Textilber. 41, No. 8: 1021-1025 (1960). In German. Through BCIRA 40: 3607 (1960). (4984)

Special problems concerning synchronization arrangements on machines, where the properties of the textile materials (especially their elasticity) make it necessary to use control devices without scanning organs touching the material, are discussed, with special reference to a continuously-operating photoelectric regulator.

SNEAK PREVIEW OF CONTINENTAL MACHINERY DEVELOPMENTS. PART 2. Skinner's Silk & Rayon Record 34: 964-965, 968-969 (Oct. 1960). (4985)

Ruti machine developments described include: B type single shuttle high-speed automatic loom with a bobbin container loading system for filament weft supply; beamer for spun and filament yarns; vacuum-controlled creel; and dry sizing machine.

TEXTILE MILL MAINTENANCE. PART 7. F. H. Slade. Textile Mfr. 86: 397-400 (Oct. 1960). (4986)

Pointers on the maintenance of equipment relating to atmospheric control (air conditioning, heating, ventilation) are given.

VIBRATION MEASUREMENT BY MEANS OF HIGH SPEED CINEMATOGRAPHY. K. Z. Regel'man. Tekstil. Prom. 20, No. 2: 59-61 (1960). In Russian. Through BCIRA 40: 3465 (1960). (4987)

The method described does not require special vibration-recording devices and can be widely used for determining the nature and amplitude of spindle, centrifuge, etc., vibrations.

USE OF AIR FILTERS IN THE CHEMICAL FIBER FIELD. H. Schütz and G. Rabbel. Chemiefasern 10, No. 7: 439-441 (1960). In German. Through BCIRA 40: 3614 (1960). (4988)

The use of dry-fiber air-filtering mats and of electro air-filters in manmade fiber processing plants, to prevent discoloration and soiling of the fibers, is discussed.

WHY YOU NEED PREVENTIVE MAINTENANCE--AND HOW TO GET IT. R. M. Watson (Drayton Mills). Textile World 110: 114-116 (Nov. 1960). (4989)

The functions of a typical plant engineering program and the responsibilities of the plant engineer are outlined.

RULES FOR THE PLANNING OF DYEING AND FINISHING INSTALLATIONS. R. R. Muntan. Ingenieria Textil 27: 224-229 (May/June 1960). In Spanish. Through BCIRA 40: 3498 (1960). (4990)

MODERN INSTRUMENTS FOR MOISTURE CONTROL DURING CHEMICAL FIBER PROCESSING. H. Brauckhoff. Chemiefasern 10, No. 7: 434-438 (1960). In German. Through BCIRA 40: 3616 (1960). (4991)

The effect of air humidity on fiber properties is discussed, with special reference to the construction of devices for measuring and controlling temperature and relative humidity (various types of thermometers and hygrometers).

ANALYSIS OF THE PERFORMANCE OF PNEUMATIC ATOMIZER SYSTEMS FOR THE HUMIDIFICATION OF TEXTILE PLANTS. I. S. Troitskii. Tekhnol. Tekstil. Prom. No. 2 (15): 101-111 (1960). In Russian. Through BCIRA 40: 3615 (1960). (4992)

On the basis of laboratory and industrial studies, basic theoretical and practical directions are given for the evaluation of atomizer systems, taking into account aerodynamic and energetic factors.

SCIENCES G

Chemistry G1

RADIATION BOOSTS REACTIVITY OF CELLULOSICS. Chem. Eng. News 38: 52-53 (Nov. 7, 1960). (4993)

Beta-radiation produces cross-linking in nonionic, water soluble cellulose compounds; gamma-rays induce styrene grafting. Photos.

NEW SURFACTANTS LISTED. PART 2. J. W. McCutcheon. Soap Chem. Specialties 36: 54-62 (Nov. 1960). (4994)

For part 1, see abstr. 4566/60.

ACTION OF OXIDIZING AGENTS ON CELLULOSE AND HYDROCELLULOSE. W. B. Achwal and G. M. Nabar (Univ. Bombay). Textile Research J. 30: 872-881 (Nov. 1960). (4995)

Changes in the properties of cellulose during progressive hydrolysis by dilute sulfuric acid have been studied by measuring the changes in oxidative susceptibility, density, moisture regain, and DP. It is shown that hydrolysis decreases oxidative susceptibility, moisture regain, and DP but the density progressively increases and reaches a constant value at more or less the stage at which DP, moisture regain, and oxygen consumption reach a constant value. From a study of the chemical properties of the products of oxidation of cellulose and the various hydrocelluloses it is shown that the mechanism of oxidation, in spite of the changes indicated above, remains the same in both cases. Graphs, tables, 29 refs.

WATER VAPOR SORPTION AND HEATS OF WETTING OF SOME POLYAMIDES. E. F. Nekryach and Z. A. Samchenko. Kolloid Z. 22, No. 3: 288-292 (1960). In Russian. Through BCIRA 40: 3565 (1960). (4996)

By determining the sorption isotherms of water vapor and heats of wetting on polycaprolactam (Kapron) and polyhexamethylenediamide (Anid), a comparative study was made of the sorption and hydrophilic properties of the two polyamides, in which the number of methylene groups per carbamide group is the same but in different positions. It was found that the different structure of the basic macromolecular chain of the polyamides studied has no effect on their hydrophilic properties.

Physics G2

SOME EXPERIMENTS WITH NEUTRALIZING INSTRUMENTS FOR ELIMINATION OF STATIC ELECTRIFICATION. N. Murasaki. J. Textile Machy. Soc. Japan 13, No. 7: 492-499 (1960). In Japanese (English summary). Through BCIRA 40: 3651 (1960). (4997)

The action of neutralizing instruments can be analyzed if both the neutralizing current and the distributed charge density on the surface of the charged body after the neutralizing process are measured. This paper reports measurements of distributed charge density, positive or negative, by a dust figure and discusses the implications.

ELECTRICAL CONDUCTIVITY OF COTTON AND VISCOSE STAPLE FIBER AND ITS DEPENDENCE UPON RELATIVE AIR HUMIDITY. Y. P. Sidorov. Tekhnol. Tekstil. Prom. No. 2 (15): 17-22 (1960). In Russian. Through BCIRA 40: 3560 (1960). (4998)

The electrical conductivity of viscose staple fibers was found to be lower than that of cotton under the same conditions. The dependence of the electrical conductivity of cotton upon the relative air humidity can be expressed by the formula: $\lambda = \lambda_0 e^{cv}$, where λ_0 and c are constants and v is the relative air humidity within the range of 35-82%. The electrical conductivity of viscose staple fibers and cotton increases rapidly at high relative humidity values.

EFFECT OF NUCLEAR RADIATION ON FIBROUS MATERIALS. O. Teszler and H. A. Rutherford (N. C. State Coll.). Proc. U. N. Intern. Conf. Peaceful Uses At. Energy, 2nd, Geneva, 1958, 29: 228-232 (1959). Summary in Chem. Abstr. 54: 23344e (1960). (4999)

Biology G3

DAMAGE CAUSED BY SILVER FISH AND THEIR RESISTANCE TO CONTACT INSECTICIDES. S. Wolf. Faserforsch. u. Textiltech. 11, No. 5: 236-240 (1960). In German. Through BCIRA 40: 3324 (1960). (5000)

Experimental results show that the local damages caused by silver fish on worn textiles occur in places contaminated previously by food and beverages. Sugar, starch, and protein-containing products act as stimulating agents for the attack of silver fish; their effect is reduced if the soiling has caused a noticeable stiffening of the fabric, hardening of the fiber or the like. Considerable damage is caused only on viscose and cuprammonium rayon and very light cotton fabrics, but not on silk and high tenacity manmade fiber fabric. The organisms show a high resistance to contact insecticides.

ENZYMATIC DEGRADATION OF CELLULOSE. G. Maisano and E. Steffanoni. Teintex 25, No. 5: 350-355; No. 6: 425-432; No. 7: 512-521 (1960). In French. Through BCIRA 40: 3336 (1960). (5001)

In this review, the author discusses enzymes and enzymic reactions, in general, and cellulolytic enzymes and the chemical degradation process of cellulose, in particular. 39 refs.

BIOSYNTHESIS OF CELLULOSE BY ACETOBACTER ACETIGENUM. A. M. Brown and J. A. Gascoigne (Brit. Rayon Research Assoc.). Nature 187: 1010-1012 (Sept. 17, 1960). (5002)

Morphology of Acetobacter acetigenum and cellulose synthesis. Extracellular synthesis of cellulose by Acetobacter acetigenum. Micrographs, 16 refs.

MISCELLANY H

THE TEXTILE OUTLOOK: SHORT AND LONG-TERM VIEWS. W. H. Miernyk. Textile Bull. 86: 89-91 (Sept. 1960). (5003)

The economic outlook for 1960-1970 is analyzed.

AUSTRALIAN COTTON MANUFACTURING INDUSTRY. R. J. Webster. Textile J. Australia 35: 708-710, 744-747 (Sept. 20, 1960). (5004)

EASY CARE COTTONS. J. L. Williams and F. A. McCord. Nat. Cotton Council of America, Market Research Section, Utilization Research Div., Memphis, Tenn. June 1960. 25 p. Free. (5005)

Factors relating to consumer demand for easy care fabrics, different processes for achieving easy care fabrics and their advantages and disadvantages, statistical data on consumption of easy care fabrics and possible uses.

TEXTILE INDUSTRY IN THE PEOPLE'S REPUBLIC OF POLAND. I. W. Tybor and others. Deut. Textiltech. 10, No. 6: 281-325 (1960). In German. Through BCIRA 40: 3396 (1960). (5006)

This number is intended to establish a friendly relationship between the textile industries of Poland and the German Democratic Republic. For this purpose, articles are presented which are original contributions of Polish scientists and engineers, abstracts are given of new Polish patents, p. 324-325, and a map is shown with the main centers of the Polish textile industries. The articles include: The textile industry in the Polish People's Republic, by I. W. Tybor, p. 281-285; New constructions of the Polish textile machinery industry, by S. Dutkowski and I. W. Tybor, p. 285-291; Polish chemical fibers: mechanical and technological data and uses, by L. Biedermann, p. 292-294; A proposal for controlling the speed on ring-spinning machines, by A. Rózycki, p. 294-297; Technological investigations on drawframes, by W. Jablonski and Z. Kozlowski, p. 297-302; Methods for evaluating, controlling, and regulating the shuttle path, by J. Szosland, p. 303-307; The use of urea and melaminemethanol resin precondensates during creaseproofing of cotton fabrics, by Z. Jedrusiak and J. Majzner, p. 313-315.

SHORT-TERM FLUCTUATIONS CAN BE MINIMIZED. W. H. Miernyk. Textile Bull. 86: 61-64 (Nov. 1960). (5007)

The causes of the cyclical swings in production in the textile industry are analyzed, and steps that can be taken to aid management in its efforts to minimize the cyclical swings are suggested.

DETERGENT PATENTS SERVICE. J. W. McCutcheon. Soap Chem. Specialties 36: 53-54 (Nov. 1960). (5008)

A patent service in the soap, detergent, and oil fields is described which processes annually about 1,000 United States patents and about 300 foreign patents. Coded punched abstract cards are provided, as well as copies of the patents and translations of the foreign patents.

ARE YOUR TEXTILE LABELS LEGAL? H. H. Hannah. U. S. Small Business Admin., Washington 25, D. C. July 1960. 4 p. Small marketers aids, no. 58. (5009)

USE OF TEXTILE MACHINES AS RESEARCH TOOLS. J. F. Bogdan (School of Textiles, N. C. State Coll.). Am. Soc. of Mechanical Engrs., 29 W. 39th St., New York 18, N.Y. 5 p. ASME paper no. 59-A-220. 80¢. (5010)

The role of textile processing machines as scientific instruments in fiber development programs is explained. The methods of evaluating the performance of fiber candidates during their traverse of the obstacle course at North Carolina State College is presented in detail with facsimiles of the forms used for the various processes.

A MATTER OF DEGREE. D. L. Munden (Leeds Univ.). Hosiery Trade J. 67: 106-108 (Oct. 1960). (5011)

The courses of instruction available to textile students at Leeds University are briefly described.

BIBLIOGRAPHY OF CHEMICAL REVIEWS. VOLS. 1 AND 2. Am. Chem. Soc., Washington. 1960. 140 p., 153 p. $5.00. (5012)

Compiled from Chemical Abstracts, v. 52, 1958, and v. 53, 1959. Dyes and textile chemistry, v. 1, p. 130-133; v. 2, p. 141-143.

PLASTICS: I/EC MATERIALS OF CONSTRUCTION REVIEW. R. B. Seymour. Ind. Eng. Chem. 52: 1038-1042 (Dec. 1960). (5013)

96 refs.

HOSIERY STATISTICS--1959. National Association of Hosiery Manufacturers, Inc., 468 Park Ave. South, New York 16, N.Y. 1960. 48 p. $5.00. (5014)

Provides details involving hosiery production, shipments, stocks, exports, imports, number of operating units, and the total of personnel engaged in manufacturing.

ELEMENTS OF TEXTILE COSTING. rev. ed. W. E. Shinn. North Carolina State College, School of Textiles, Raleigh, N. C. 1960. 105 p. Available from the author. $3.20. (5015)

INTERNATIONAL SYMPOSIUM ON BULK AND STRETCH YARNS, PRAGUE. Skinner's Silk & Rayon Record 34: 960-961 (Oct. 1960). (5016)

The main papers concerned the structural changes in bulking as well as the underlaying physical phenomena and theories; Czechoslovak developments in the field of bulking machinery; economics of bulking and of bulked yarn applications; processing and uses of bulked yarns in Czechoslovakia; testing methods for bulk and stretch yarns; profiled cross-section fibers and others. Highlights of the papers are covered. Photo, diagr.

HIGHLIGHTS OF THE 21ST SOUTHERN TEXTILE EXPOSITION, GREENVILLE, SOUTH CAROLINA. Textile Bull. 86: 47-60 (Nov. 1960). (5017)

COTTON: IMPROVING ITS PROPERTIES SPURS DEMAND FOR CHEMICALS. F. A. McCord and N. F. Getchell (Nat. Cotton Council of America). Chem. Eng. News 38: 106-110 (Nov. 14, 1960). (5018)

Already using over 30 million pounds of creaseproofing chemicals, cotton needs better ways to boost its strength, soiling resistance and offers a vast potential for research on further chemical treatments. Photos, graphs.

SOME DEVELOPMENTS IN WOOL TEXTILE RESEARCH IN AUSTRALIA. M. Lipson (C.S.I.R.O., Wool Research Labs.). Textile Research J. 30: 680-684 (Sept. 1960). (5019)

This paper outlines some of the results of direct textile interest which have emerged in the past 10 years. Emphasis has been placed on problems peculiar to wool, such as impurities like brands and burr in the raw material, the need for scouring, mill operations such as worsted carding and combing, and fabric effects such as anti-moth and shrink-resistant finishes. 27 refs.

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

Manmade fibers A2

ORIENTED THERMOPLASTIC FILAMENT HAVING A SATINY APPEARANCE. A. L. Jankens (to Dow Chem. Co.). USP 2 948 048, Aug. 9, 1960. (5020)

0.5 to 1% of sodium aconitate, or aconitic acid and an alkaline sodium salt, is added to crystalline copolymers containing at least 70% by weight of vinylidene chloride prior to melting and extrusion to form filaments. The extruded and stretched filaments contain tiny elongated voids which impart a desirable matte luster without impairing filament density or strength.

SPANDEX FILAMENT MANUFACTURE. R. C. Kohrn, D. G. Slovin, and F. L. Bliven (to U.S. Rubber Co.). USP 2 953 839, Sept. 27, 1960. (5021)

Elastomeric polyurethane filament consisting of a surface layer for which the curing agent is an aliphatic diprimary amine and a core for which the curing agent is water.

IMPROVED CELLULOSE TRIACETATE FIBERS. V. F. G. Cooke and J. W. Fisher (to Brit. Celanese Ltd). USP 2 954 352, Sept. 27, 1960. (5022)

The inclusion of a polyoxamide in a cellulose triacetate spinning solution results in fibers resistant to gas fading and which can be dyed with certain water soluble dyes.

ALL SKIN VISCOSE RAYON. J. A. Howsmon and B. A. Thumm (to Am. Viscose Corp.). USP 2 956 894, Oct. 18, 1960. (5023)

Smooth filaments consisting entirely of skin are prepared by adding small amounts of choline or choline salts to the viscose spinning bath.

PRODUCTION OF ACRYLIC FIBERS HAVING HIGH DYESTUFF AFFINITY. F. Lieseberg (to Badische Anilin & Soda-Fabrik AG). USP 2 957 748, Oct. 25, 1960. (5024)

In the spinning of fibers from solutions of polyacrylonitrile in dimethylformamide, the spun tow is stretched in three successive baths of water and dimethylformamide under the conditions specified.

SYNTHETIC THREAD OR FIBER WITH REDUCED STATIC ELECTRICITY. R. Lotz (to Vereinigte Glanzstoff-Fabriken AG). USP 2 957 848, Oct. 25, 1960. (5025)

A derivative of methane or ethane which dissociates into free radicals having trivalent carbon is added to the polymer prior to melt spinning.

YARN PRODUCTION B

FALSE TWIST CRIMPING OF SWELLABLE FILAMENTS. L. Ubbelohde (Germany). USP 2 956 393, Oct. 18, 1960. (5026)

In a continuous crimping method for swellable filaments in which the filaments are softened by swelling prior to false twisting, a major part of the swelling agent is removed before setting by passing the filaments through the false twist zone at high tension.

ACETATE YARN CONDITIONING AGENT. C. C. White and R. E. Donaldson (to Eastman Kodak Co.). USP 2 956 949, Oct. 18, 1960. (5027)

Composition which provides effective lubrication and antistatic properties to the yarn and also produces filament bonding.

Opening, picking, fiber preparation B1

CONTINUOUS MECHANICAL CLEANING PROCESS FOR SEED FLAX STRAW. L. E. Schulze. USP 2 957 209, Oct. 25, 1960. (5028)

Carding and combing B2

FLOOR CONVEYOR FOR CARD SLIVER CANS. G. B. Reeves (to West Point Mfg. Co.). USP 2 956 663, Oct. 18, 1960. (5029)

Drawing and roving B3

SLIVER BREAK DETECTION APPARATUS. H. Ohnishi (Japan). USP 2 956 392, Oct. 18, 1960. (5030)

Spinning, winding, twisting B4

BROKEN END SUCTION DEVICE FOR SPINNING MACHINERY. H. R. Berberich and W. Hirschmann (to Thoma Co. GmbH). USP 2 956 389, Oct. 18, 1960. (5031)

The cross-section of the shaped suction tube is subdivided into a rounded main duct and a narrow and elongated nozzle duct so that it is suitable for use with both short and long staple fibers.

APPARATUS FOR MEASURING SPINNING MACHINE EFFICIENCY. A. H. Bahnson, Jr. USP 2 957 300, Oct. 25, 1960. (5032)

Apparatus for measuring the accumulated extent of the intervals of ends-down of one or more spinning or analagous machines.

CENTRIFUGAL CAN SPINNING FRAMES. A. Gardella (Italy). USP 2 957 301, Oct. 25, 1960. (5033)

Twisting or spinning is automatically restarted after breakage by the use of rotatable thread guide for inserting a pre-twist into the sliver or yarn before it reaches the can.

Yarns B5

CONTINUOUS APPARATUS FOR MANUFACTURING BULK YARN. W. G. Faw (to Eastman Kodak Co.). USP 2 956 328, Oct. 18, 1960. (5034)

Apparatus for bulking multifilament yarns and winding the bulked yarn directly on a beam for use on a rug tufting machine.

SPOOL. H. F. Benoit. USP 2 957 642, Oct. 25, 1960. (5035)

Spool for use in mule spinning, carding, etc., is constructed of a hard plastic barrel with threaded end portions, disklike head portions of hard fiber material attached by threading to the barrel, and a metal flange for forcing the barrel and heads into a frictional binding relation with each other and for carrying a pivot pin for supporting the spool on the machine with which it is to be used.

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

YARN STORING AND TENSIONING DEVICE. R. O. Letsch. USP 2 955 774, Oct. 11, 1960. (5036)

Device for storing yarn and for applying back-tension to insure proper application and prevent oversupply or tangling between the source of supply and point of application.

TENSION DEVICE FOR CONE WINDING. H. Halkyard (to Brit. Celanese Ltd). USP 2 956 756, Oct. 18, 1960. (5037)

Tension device arranged to exert a diminishing tension on the yarn as the size of the cone increases.

WARP SIZING MACHINERY. E. H. Jones and J. J. Vincent (to Brit. Cotton Ind. Research Assoc.). USP 2 956 905, Oct. 18, 1960. (5038)

Means for the automatic regulation of the continuous application of specified amounts of solids or liquids in warp sizing.

HEATED WIRE FOR REMOVING WASTE FILAMENTARY MATERIAL FROM A SPOOL OR BOBBIN. H. Bundegaard and J. W. Preece (to Am. Cyanamid Co.). USP 2 957 065, Oct. 18, 1960. (5039)

YARN WINDING APPARATUS. R. E. Bisbe (to E. I. du Pont de Nemours & Co.). USP 2 957 635, Oct. 25, 1960. (5040)

Drive roll for the automatic transfer of yarn from one package to another without interruption in continuity of winding.

BOBBIN WINDING MACHINE FOR PSEUDO-TWISTED YARNS. W. Lenk and H. Lohest (to Barmer Maschinenfabrik AG). USP 2 957 302, Oct. 25, 1960. (5041)

Machine for winding individual yarns, drawn from separate feed points, onto a single bobbin by the use of an alternating or pseudo-twist, so that in later unwinding the yarns can be withdrawn as a group of parallel individual yarns under uniform tension.

Weaving C2

LOOM DRIVE CONTROL MECHANISM. E. Pfarrwaller (to Sulzer Frères SA). USP 2 956 588, Oct. 18, 1960. (5042)

Means for disconnecting selected mechanisms from the main drive shaft during an emergency stop and for reversing them to correct a weaving defect while the loom is at a standstill.

LOOM DOBBY. G. Pellis (Italy). USP 2 956 589, Oct. 18, 1960. (5043)

Dobby which can be mounted inside a loom beneath the heddles and which completely eliminates any need to connect the dobby to the heddles.

LOOM PICKER STICK CHECK. F. H. Pressley. USP 2 956 590, Oct. 18, 1960. (5044)

The check is mounted on the lay sword near the lower ends of the picker stick and sword and close to the parallel mechanism to minimize vibration and the tendency of the parallel shoe to jump up from the parallel on each pick.

SHUTTLE BINDER ADJUSTING MECHANISM. W. A. Sherwood (to Chandler Evans Corp.). USP 2 956 591, Oct. 18, 1960. (5045)

Mechanism for use in cooperation with a hydraulic shuttle check by means of which the entire deceleration of the shuttle may be frictionally effected.

SHUTTLE GUIDE AND WEFT YARN BEATUP APPARATUS. E. Pfarrwaller (to Sulzer Frères SA). USP 2 956 592, Oct. 18, 1960. (5046)

The shuttle guides and reed for beating up the weft yarns are individually swingable on separate axes which are parallel to the line on which the shuttles are guided through the shed.

AUTOMATIC CHARGING DEVICE FOR PIRN CHANGING APPARATUS. E. Baumann (to Georg Fischer AG). USP 2 956 593, Oct. 18, 1960. (5047)

WEFT PIRN SUPPLY MECHANISM. E. Baumann (to Georg Fischer AG). USP 2 957 497, Oct. 25, 1960. (5048)

WARP STOP MOTION FOR TERRY FABRIC LOOM. R. S. Martin (to Fieldcrest Mills). USP 2 957 498, Oct. 25, 1960. (5049)

Knitting C3

NEEDLE ACTUATING MECHANISM FOR AUTOMATIC PATTERNING ON HAND KNITTING MACHINES. G. A. Dahlqvist and E. A. Karlsson (Sweden). USP 2 956 424, Oct. 18, 1960. (5050)

WRAP THREAD STRIPING MECHANISM FOR CIRCULAR KNITTING MACHINES. A. P. Saunders (to Wildt Mellor Bromley Ltd). USP 2 956 425, Oct. 18, 1960. (5051)

STRAIGHT BAR KNITTING MACHINES. C. K. Willner. USP 2 957 324, Oct. 25, 1960. (5052)

The machine includes, in addition to the usual elements, additional elements for forming rib fabric portions in succession to the usual plain fabric portions without changing the basic arrangement of the knitting elements.

NEEDLE SELECTING MEANS FOR ARGYLE PATTERNING CIRCULAR HOSIERY MACHINES. H. E. Crawford (to H. E. Crawford Co.). USP 2 957 325, Oct. 25, 1960. (5053)

Needle selecting means for producing patterned areas which are in symmetrical relation to the heel and toe portions of the stockings.

WARP YARN GUIDE EYES FOR WARP KNITTING MACHINES. A. W. H. Porter (to Hobourn F. N. F. Ltd). USP 2 957 326, Oct. 25, 1960. (5054)

In a high speed flat warp knitting machine having a row of reciprocating compound needles, the warp yarns are laid in the needle hooks by a row of guide eyes, the openings of which all lie in a common plane, and which are positioned in such a way that the movement of the warp yarns through the holes takes place in planes parallel to those of the needle hooks.

HOSIERY INSPECTING APPARATUS. F. Autem (to So. Textile Machy. Co.). USP 2 957 613, Oct. 25, 1960. (5055)

Fabrics C4

REINFORCEMENT OF RIGID OR FLEXIBLE MOLDED BODIES. O. Ambros, E. Rindtorff, and K. Schmitt (to Bergwerkgesellschaft Hibernia AG). BP 837 594, June 15, 1960. Through BCIRA 40: 3197 (1960). (5056)

Polyolefin filaments or fibers are used in the reinforcement of rubber tires and conveyor belts.

MARKING OF TEXTILE ARTICLES. P. Mayer, V. E. Yarsley, and W. Titow (to Polymark Ltd). BP 838 500, June 22, 1960. Through BCIRA 40: 3332 (1960). (5057)

The invention relates to the use of identification tabs made of cellulose acetate for sticking to articles during their journey through the laundry. These tabs are meant to be peeled off before the goods are returned to the customer but sometimes they leave behind residues of cellulose acetate. This trouble is overcome by soaking the tabs or the component cellulose acetate yarns in a solution that effects partial saponification.

METHOD OF PRODUCING NONWOVEN BONDED FIBROUS MATERIALS. G. Schickedanz (Germany). BP 838 027, June 22, 1960. Through BCIRA 40: 3187 (1960). (5058)

Nonwoven bonded fiber fabrics are reinforced by laying spun yarns in straight or wavy lines on the fibrous webs and bonding them with the fibers.

METHOD OF BONDING FIBERS. G. Schickedanz (Germany). BP 838 727, June 22, 1960. Through BCIRA 40: 3266 (1960). (5059)

The fiber fleece (cellulose) is sprayed with a solution containing urea or melamine, formaldehyde and methylcellulose and, if desired, a catalyst and a bactericide, dried, and baked.

NONWOVEN FABRICS FOR OUTERWEAR. N. S. Cassel (to Interchemical Corp.). USP 2 949 386, Aug. 16, 1960. (5060)

The fabric consists of a web of overlapping and intersecting fibers bonded together by cross-linking a linear polymer containing carboxyl groups with a polyfunctional imine cross-linking agent.

NYLON FIBER REINFORCED POLYVINYL CHLORIDE LAMINATES. E. A. Rodman (to E. I. du Pont de Nemours & Co.). USP 2 949 394, Aug. 16, 1960. (5061)

ELECTRICAL INSULATING TAPE WITH CONTROLLED STRETCH. D. C. Youngs (to Dow Corning Corp.). USP 2 951 277, Sept. 6, 1960. (5062)

The tape consists of silicone rubber supported by a woven fabric in which all of the yarns along the width of the tape are heat set prior to weaving and those along the length are heat set after weaving.

BONDING AGENT FOR GLASS FIBER REINFORCED POLYESTER RESIN LAMINATES. A. Marzocchi and N. S. Janetos (to Owens-Corning Fiberglas Corp.). USP 2 951 772, Sept. 6, 1960. (5063)

DECORATIVE COLOR EFFECTS IN GLASS FIBER REINFORCED LAMINATES. E. F. Bushman (to Gen. Am. Trans. Corp.). USP 2 951 780, Sept. 6, 1960. (5064)

GLASS FIBER REINFORCED LAMINATES. G. E. Eilerman (to Pittsburgh Plate Glass Co.). USP 2 951 782, Sept. 6, 1960. (5065)

The glass fibers are treated with an aqueous solution of vinylchlorosilane and a monocarboxylic acid to provide better bonding and improved flexural strength in the laminate.

TENNIS BALL COVERING. E. Bukalders, H. R. Chadwick, J. Ogden, E. B. Gibson, and G. Greaves (to Slazengers Ltd). USP 2 952 063, Sept. 13, 1960. (5066)

The napped surface of the cover is produced by raising the fibers on one surface of a spun yarn fabric (to produce an overlay of long fibers of varying angles) and cropping the fibers.

ACETATE TOW TOBACCO SMOKE FILTER. G. P. Touey (to Eastman Kodak Co.). USP 2 956 329, Oct. 18, 1960. (5067)

PROCESSING YARNS FOR STRETCH FABRICS. A. Burleson (to Textile Licensing Co.). USP 2 952 116, Sept. 13, 1960. (5068)

The fabrics are woven or knitted from single yarns having alternating directions of twist.

COMPOSITE CARPET TILES. E. G. Goldstone (to Allen Inds.). USP 2 952 577, Sept. 13, 1960. (5069)

The tiles are composed of a layer of pile fabric, an intermediate layer of latex, a bottom layer of nonwoven fibers, and a latex selvage edge for locking the materials securely together.

SPRING BELT CROSS STRETCHING MACHINE FOR NONWOVEN FABRICS. F. Kalwaites (to Chicopee Mfg. Corp.). USP 2 952 893, Sept. 20, 1960. (5070)

For effecting simultaneous cross-stretching and long-shrinking in such a way that the unit web weight remains approximately constant as the dimensional changes are effected.

KNITTING MACHINE FOR HIGH PILE FABRICS. J. H. Hill (to Wildman Jacquard Co.). USP 2 953 002, Sept. 20, 1960. (5071)

Fiber carding and feeding mechanism for producing patterned high pile fabrics while preventing the piling up of excess fibers at the doffer.

CIGARETTE FILTER CELLULOSE ACETATE TOW. R. T. Crawford and J. B. Stevens (to Eastman Kodak Co.). USP 2 953 837 and 2 953 838, Sept. 27, 1960. (5072)

MECHANISM FOR KNITTING DOUBLE FACE HIGH PILE FABRICS. J. H. Hill (to Wildman Jacquard Co.). USP 2 953 912, Sept. 27, 1960. (5073)

Air pressure system which causes the fibers of tufts at certain knitting stations to appear at the back face of the fabric and at other knitting stations at the front face of the fabric.

TUFTED RUG MACHINE DESIGN CONTROL MECHANISM. R. F. Hackney, O. C. Payne, and W. M. Sapp, Jr. (to Cabin Crafts, Inc.). USP 2 954 865, Oct. 4, 1960. (5074)

Tufts of different heights are formed by increasing the yarn feed for higher tufts and decreasing the yarn feed for lower tufts.

CUT PILE CARPETING. L. L. Walmsley (to Am. Viscose Corp.). USP 2 955 346, Oct. 11, 1960. (5075)

Wear resistant yarn for cut pile tufts formed by plying together wool yarn with tightly crimped yarns of regenerated cellulose.

WARP KNITTED PILE FABRIC. G. E. Herrnstadt and R. R. Matthews (to Firth Carpet Co.). USP 2 955 446, Oct. 11, 1960. (5076)

The fabric is knitted from a back twisted yarn consisting of a single ply twisted core and another ply wrapped around the core to form a thick and fluffy end within the twist.

WARP KNITTED CARPET PILE FABRIC HAVING EACH PILE END BOUND ENTIRELY IN ONE WALE. R. S. MacCaffray, Jr. (to C. H. Masland & Sons). USP 2 953 913, Sept. 27, 1960. (5077)

APPARATUS FOR FORMING AND APPLYING STRAND REINFORCEMENT MATERIAL FOR SCRIM. R. A. Havemann (to St. Regis Paper Co.). USP 2 954 817, Oct. 4, 1960. (5078)

DUST CLOTH. G. W. Engdahl (to Minn. Mining & Mfg. Co.). USP 2 955 962, Oct. 11, 1960. (5079)

Porous and pliable dust cloth consisting of a thin, porous web of fibers sized with a small amount of a rubber-resin pressure-sensitive adhesive substance.

CUT NARROW FABRICS WITH NONRAVELING EDGES. W. Whitehead (to Celanese Corp.). USP 2 956 331, Oct. 18, 1960. (5080)

Woven fabrics with a warp of stretched and saponified acetate and a weft of acetate yarn are coated with a plasticized vinyl chloride polymer and slit into narrow strips by a hot knife in the warpwise direction, so that the hot knife fuses the weft and coating to form a non-raveling edge.

PILE CARPET CONSTRUCTION. E. B. Haggar (Canada). USP 2 956 594, Oct. 18, 1960. (5081)

Method of weaving a carpet in which each woven knot consists of only five yarns or ends (e.g. one warp yarn, a pair of parallel, lower weft yarns, a single upper weft yarn and a pile yarn looped over and under the weft yarns) and in which no interlacing between weft and warp yarns is required.

SAFETY HELMET SHELL. D. J. Voss and M. Theodore (to Mine Safety Appliances Co.). USP 2 956 916, Oct. 18, 1960. (5082)

The shell is formed by placing in a mold cavity, in the following order, a cotton fabric blank, glass fabric disc, wire containing screen, glass fiber mat, cotton fabric blank, and glass fabric ring (all of which are resin impregnated) and molding under heat and pressure.

WARP KNITTED PILE FABRIC. C. E. Glover (to Kidde Textile Machy. Corp.). USP 2 957 327, Oct. 25, 1960. (5083)

The fabric is formed of adjacent rows of warpwise chain stitches, portions of which cross back and forth between stitches in adjacent rows, and the loops of pile yarn are bound into the fabric by the crossed over strand portions and the chain stitches.

LACE FABRICS. H. McCallion and J. A. Pope (England). USP 2 957 383, Oct. 25, 1960. (5084)

In a method of forming lace by the intertwisting of warp and bobbin threads, the bobbin thread holders are located between adjacent warp threads in a shed, and the bobbin threads are held stationary while the warp threads are moved and twisted around them.

FINISHING D

Chemical processes D1

α:β-DI-[BENZOXAZOLYL-(2)]-ETHYLENES AS OPTICAL BRIGHTENING AGENTS. Ciba Ltd. BP 835 898, May 25, 1960. Summary in BCIRA 40: 2922 (1960). (5085)

POLYMERIC MATERIALS CONTAINING ADSORBED OR ABSORBED ANTIBACTERIAL COMPOUNDS. N. Senior (to Imp. Chem. Inds. Ltd). BP 836 477, June 1, 1960. Through BCIRA 40: 3272 (1960). (5086)

Bactericidal dressings are prepared by immersing natural, regenerated, or synthetic fibers or fabrics in a dilute solution of 3-(5'-nitro-2'-furfurylidene)-oxindole, followed by drying. Alternatively, the textiles may be sprayed with the solution.

BLEACHING AND DETERGENT COMPOSITIONS. T. D. Davies, G. C. Hampson, F. R. M. McDonnell, and G. Schmerlaib (to Unilever Ltd). BP 836 988, June 9, 1960. Through BCIRA 40: 3333 (1960). (5087)

A detergent with the special property of removing stains from textiles (e.g. tea stains from cotton) comprises a per-salt (yielding hydrogen peroxide) and a carboxylic ester conforming to a described titration with an iodide and peroxide.

CREASE RESISTANT TREATMENT OF CELLULOSE TEXTILE MATERIALS. Traitements Chimiques des Textiles. BP 837 508, June 15, 1960. Through BCIRA 40: 3265 (1960). (5088)

The claims are for a process that avoids the use of synthetic resins and is said to give fabrics that are washable, do not require ironing, and do not retain chlorine on bleaching. The fabric is impregnated with natural or synthetic rubber latex, dried, and treated with a mono- or polychloromethyl ether containing one or more $-O\cdot CH_2Cl$ groups, dried again and baked. The chloromethyl ether is applied in an organic solvent or as an aqueous solution of its pyridinium salt.

PHOSPHORUS-CONTAINING POLYMERS DERIVED FROM 1-AZIRIDINYL COMPOUNDS. Albright & Wilson Ltd. BP 837 709 and 837 710, June 15, 1960. Through BCIRA 40: 3271 (1960). (5089)

These inventions relate to organic phosphorus polymerides that are effective flameproofing agents for textiles. They are derived from tris-(1-aziridinyl) phosphine oxide (APO) or sulfide (APS). (1) APO or APS is condensed with tris-(hydroxymethyl) phosphine oxide (THPO) or tetrakis-(hydroxymethyl) phosphonium chloride (THPC). Details are given in 6 examples. These include tests on various fabrics and strength and flammability data are recorded. (2) APO and APS are polymerized with acetic, adipic, terephthalic, and stearic acids, p-bromophenol, malononitrile, and two sulfones.

WATERPROOFING PROCESS. R. Heyden and H. Wedell (to Böhme Fettchemie GmbH). USP 2 953 479, Sept. 20, 1960. (5090)

Water repellent effects are produced by impregnation with an aqueous solution of an organic complex salt of a polyvalent metal.

PROCESS FOR IMPROVING THE WHITENESS OF ORGANIC FIBROUS MATERIALS AND FOILS. Sandoz Ltd. BP 838 271, June 22, 1960. Through BCIRA 40: 3253 (1960). (5091)

Products of the action of cyanuric chloride on 4:4'-diamino-stilbene-2:2'-disulfonic acid are claimed as blue-fluorescent brightening agents. Nine examples give details of applications to nylon yarn and fabric, Perlon crepe, viscose sateen, cotton cretonne, and wool hanks.

PROCESS FOR IMPARTING DIMENSIONAL STABILITY TO TEXTILES. J. J. Ryan and P. J. Taylor (to Tootal Broadhurst Lee Co. Ltd). BP 838 394, June 22, 1960. Through BCIRA 40: 3264 (1960). (5092)

The invention relates to the fixation of formaldehyde (which may be offered as a compound that readily liberates it), other lower aldehydes, and glyoxal by cellulosic fabrics (especially of viscose staple fiber), wool and nylon for the known object of securing dimensional stability. Hitherto the difficulty has been to control the pH of the solution, in the acid region, by varying the temperature and relative humidity during the treatment. The present invention takes advantage of the fact that when solutions of acid salts of certain metals (Li, Ba, Ca, Sr, Mg, Zn, Cu, Mn, Cd, Co) with certain polybasic acids (ortho- or pyro-phosphoric, phosphorous, malonic, oxalic, maleic, tartaric and phthalic) are concentrated, less acid salts separate and the solution becomes more acid (abstr. 2976/60). Accordingly, the aldehyde solution is made up with agents that provide one of these salts, especially $Mg(H_2PO_4)_2$.

NEW ANTHRADIPYRIDAZONES AND THEIR USE IN POLYMERIC MATERIALS. F. Irving, C. H. Reece, N. Munro, and R. H. Wilson (to Imp. Chem. Inds. Ltd). BP 838 994, June 22, 1960. Through BCIRA 40: 3254 (1960). (5093)

The invention relates to pale yellow and orange polycyclic compounds characterized by strong blue fluorescence in organic solvents. They are claimed as additions to spinning masses for filaments and as optical whitening agents for fabrics.

FULLING AND SCOURING COMPOSITIONS. J. Hunter, M. J. Kelley, and W. Northum (to Nopco Chem. Co.). USP 2 918 428, Dec. 22, 1959. (5094)

Compositions for the fulling and scouring of woolen and worsted fabrics consist of a fatty acid condensate and a sulfated fatty acid. The compositions readily dissolve in and are highly stable in aqueous solutions containing large amounts of carbonates. They may be used immediately after carbonizing. Neutralizing and rinsing are not necessary. Pine oil may be used.

LAUNDERING SYNTHETIC FIBER TEXTILES. W. Kling and H. Lange (to Bohme Fettchemie GmbH). USP 2 950 253, Aug. 23, 1960. (5095)

Good soil removal results are obtained by the addition of cation-active onium compounds to the washing solution so that a positive charge is imparted to the soil and the fabric.

CONTINUOUS FABRICATION OF IMPERVIOUS METAL COATED FIBROUS GLASS SHEET. C. K. Butler (to Owens-Corning Fiberglas Corp.). USP 2 951 771, Sept. 6, 1960. (5096)

ROTARY FULLING MILL. K. Göbel (Germany). USP 2 951 276, Sept. 6, 1960. (5097)

The fabric is conveyed by a progressive reciprocating motion between the sets of rollers to increase the felting effect.

FIRE-RETARDANT NYLON FABRIC. M. R. Burnell (to Am. Cyanamid Co.). USP 2 953 480, Sept. 20, 1960. (5098)

An aqueous solution of ammonium bromide and an aminotriazine-aldehyde condensate is applied to the nylon and cured at an elevated temperature.

RESIN-TREATED DECRYSTALLIZED NATIVE CELLULOSE FIBERS. L. Segal, L. Loeb, and C. M. Conrad (to U.S. Secy. Agri.). USP 2 955 014, Oct. 4, 1960. (5099)

Undegraded fibers with reduced crystallinity are prepared by treating fibers such as cotton, linen, ramie, etc., preferably in yarn form, with alkylenepolyamine to reduce their crystallinity, and then impregnating with a urea-formaldehyde resin.

CREASE RESISTANT AND WATERPROOF COATED NYLON. N. J. Brown. USP 2 955 958, Oct. 11, 1960. (5100)

The fabrics are passed rapidly through a polyvinyl chloride coating composition containing high boiling ketone and toluene solvents and rapidly dried in a heating chamber, so that the solution penetrates the interstices between the fibers but does not impregnate the fibers.

COATING POLYESTER OR POLYAMIDE FABRICS. D. P. Spencer (to Imp. Chem. Inds. of Australia and New Zealand Ltd). USP 2 956 903, Oct. 18, 1960. (5101)

A base coating to increase the adhesion of a surface coating of polyvinyl chloride consists of: acrylonitrile rubber; vinyl tripolymer composed of vinyl chloride, acetate, and alcohol; chlorinated rubber, and an organic triisocyanate.

Dyeing and printing D2

DYEING CELLULOSE WITH DIAZOTIZABLE DIRECT DYES. J. G. Kennedy (to Whiffen & Sons Ltd). BP 835 628, May 25, 1960. Summary in BCIRA 40: 2924 (1960). (5102)

DYED POLYACRYLONITRILE TEXTILES. H. R. Hadfield and W. M. Sokol (to Imp. Chem. Inds. Ltd). BP 835 649, May 25, 1960. Through BCIRA 40: 2926 (1960). (5103)

The fastness to washing of polyacrylonitrile textiles (Acrilan) that have been dyed with anionic dyes is improved by treatment in a hot bath of a tanning agent.

DYEING POLYACRYLONITRILE FABRICS WITH BASIC OR DISPERSED DYES IN THE PRESENCE OF AMIDOAMINES. W. Hees, M. Quaedvlieg, and G. Rühlig (to Farbenfabriken Bayer AG). USP 2 953 420, Sept. 20, 1960. (5104)

DYEING POLYAMIDE FIBERS. Sandoz Ltd. BP 835 722, May 25, 1960. Through BCIRA 40: 2925 (1960). (5105)

Level dyeings on polyamide materials that otherwise give barred effects are obtained by applying an acid dye, or a chrome or 1:2-metal complex dye in the presence of a sulfonated unsaturated fatty acid (e.g. oleic) or ester (e.g. castor oil).

JIG DYEING MACHINES. J. G. Kennedy (to Whiffen & Sons Ltd). BP 836 251, June 1, 1960. Through BCIRA 40: 3260 (1960). (5106)

The machine has a recessed base, a pair of batching rollers, and one or more guide rollers at least one of which is in the recess. The machine may also have a removable lid and means for heating the dye liquor.

PROCESS FOR PRODUCING IMITATION EYELET EMBROIDERY. A. B. Lohner (to Theresienthaler Baumwoll Spinnerei und Weberei AG). BP 836 605, June 9, 1960. Through BCIRA 40: 3262 (1960). (5107)

Imitation broderie anglaise and the like is produced by printing a cellulosic fabric with a pigmented paste containing a melamine/formaldehyde precondensate (to form the beaded edges to the holes), drying, printing with a paste containing 60° Bé. sulfuric acid, heating to about 130° C, and washing out the carbonized parts.

PROCESS FOR PADDING TEXTILES WITH ESTERS OF LEUCO VAT DYESTUFFS. Farbwerke Hoechst AG. BP 837 000, June 9, 1960. Through BCIRA 40: 3257 (1960). (5108)

Difficulties in the application of mixtures of leuco vat dye esters, due to their different affinities for cellulose and the variation of this affinity with temperature, are overcome by adding to the padding liquor some polyvinylpyrrolidone.

APPARATUS FOR FLUID TREATMENT OF BEAMS OF FABRIC. W. J. Newcomb and J. S. Williamson (to Burlington Eng. Co.). BP 837 218, June 9, 1960. Through BCIRA 40: 3259 (1960). (5109)

The invention relates principally to an automatically controlled dyeing machine for handling fabrics such as Orlon and Dacron on beams at temperatures up to 300° F and under pressures up to 50 lb/sq in. The beam is mounted on a cradle secured to a fluid-tight closure for the open end of the tank and running on a track into the tank.

PRINTING TEXTILE MATERIALS WITH VAT AND SULFUR DYESTUFFS. Badische Anilin und Soda Fabric AG. BP 837 940, June 15, 1960. Through BCIRA 40: 3261 (1960). (5110)

The claims are for the use as reducing agents of potassium or sodium salts of sulfinic acids of the formulas $(HO_2S \cdot CHMe)_2{:}N \cdot C_2H_4 \cdot N{:}(CHMe \cdot SO_2H)_2$, $HO_2S \cdot CHMe \cdot NH \cdot C_2H_4 \cdot NH \cdot CHMe \cdot SO_2H$, and related formulas.

FIBER PRETREATMENT FOR MORDANT DYEING PROCESS. B. Dach (to Farbenfabriken Bayer AG). USP 2 956 853, Oct. 18, 1960. (5111)

Level dyeings on piece goods and yarns can be achieved by subjecting the materials to be dyed to a preliminary mordant with organic compounds containing acid groups.

DYEABILITY OF TREATED POLYMERIC MATERIAL. F. L. Schouteden (to Gevaert Photo Production NV). BP 838 296, June 22, 1960. (Addition to BP 786 960). Through BCIRA 40: 3258 (1960). (5112)

The affinity for dyes of fibers of the polyacrylonitrile series is greatly enhanced by boiling the fibers with a solution of a hydroxylamine salt.

DYEING OF THREADS, FILAMENTS, FIBERS, AND THE LIKE. L. A. Bashford (to Courtaulds Ltd). BP 838 735, June 22, 1960. (Addition to BP 803 293). Through BCIRA 40: 3255 (1960). (5113)

Octylphenol and octylcresol are claimed as carriers in the dyeing of hydrophobic yarns (cellulose triacetate, acrylonitrile polymers, Terylene) with dispersed acetate dyes.

STOCKING FORM FOR SHADED DYEING. W. E. Brainerd (to Munsingwear, Inc.). USP 2 953 915, Sept. 27, 1960. (5114)

PROCESS OF DYEING ACRYLONITRILE ARTICLES WITH CATIONIC DYES. L. S. Pitts (to E. I. du Pont de Nemours & Co.). USP 2 955 009, Oct. 4, 1960. (5115)

The use of ionizable polymeric sulfonates in the dyebath as retarders is claimed to produce level dyeings of acrylic fibers with cationic or basic dyes by the exhaustion method.

PAD DYEING AND PRINTING OF ACRYLIC FIBERS. W. Fluegel and A. Dürst (to Sandoz Ltd). USP 2 955 010, Oct. 4, 1960. (5116)

The acrylic fiber fabrics are impregnated with aqueous pastes containing a water-soluble organic dye, an organic solvent, a thickener, cuprous oxide, and a non-volatile acid, and subsequently dried and steamed.

GEAR TYPE BLENDER FOR SPIN DYEING SYNTHETIC FIBERS. E. K. Bauer (to Am. Viscose Corp.). USP 2 955 319, Oct. 11, 1960. (5117)

DYEING PROCESS FOR CELLULOSE FIBERS. T. L. Dawson (to Imp. Chem. Inds. Ltd). USP 2 955 900, Oct. 11, 1960. (5118)

Cellulosic materials (particularly cotton and cuprammonium rayon) are fast dyed with basic dyes containing isothiouronium or quaternary ammonium groups after first impregnating them with a mixture of polymerized acrylic acid and an alkali salt thereof.

DYEING OF POLYESTER FIBERS WITH AN AQUEOUS DISPERSION OF PHTHALOPERINONE. E. Merian (to Sandoz AG). USP 2 955 902, Oct. 11, 1960. (5119)

DIAZOAMINO PRINTING PASTE FOR NEUTRAL STEAM DEVELOPMENT. E. Gaetani (to Aziende Colori Nazionali Affini-ACNA SpA). USP 2 955 903, Oct. 11, 1960. (5120)

Diazoaminic combinations of solid bases, e.g. triazenes and naphthol coupling components, may be developed without color weakening in the presence of dinitrobenzenesulfonic acid salts of alkali or alkaline earth metals.

DYEING AND PRINTING OF POLYESTERS. W. Braun, E. Hartwig, J. Eisele, and W. Federkiel (to Badische Anilin & Soda-Fabrik AG). USP 2 957 745, Oct. 25, 1960. (5121)

Diphenylsulfones are claimed as dyeing assistants in the disperse dyeing of polyester fibers.

Drying, setting, conditioning D4

HOLLOW DRYING ROLLERS. Soc. de Recherches et de Réalisations Industrielles. BP 835 963, May 25, 1960. Through BCIRA 40: 2933 (1960). (5122)

The roller is fitted with longitudinal radial ribs that form open flow channels for drying fluid, and a sleeve by means of which at least one end part of each rib can be shut off to form enclosed channels. The profile of these parts of the ribs is such that their walls combine effectively to form a turbine rotor, there being distributor means for directing drying fluid into the open channels via the profiled parts of the ribs.

METHOD AND APPARATUS FOR DRYING OR SIMILAR TREATMENT OF A WEB-LIKE MATERIAL BY MEANS OF A GASEOUS TREATING MEDIUM. Svenska Fläktfabriken AB. BP 837 686, June 15, 1960. Through BCIRA 40: 3275 (1960). (5123)

The gaseous medium (for drying, cooling, or conditioning) is directed against the traveling web as jets issuing from a large number of small holes in the wall of a manifold. These holes are evenly interspersed with a few larger holes that take the exhaust. The medium is thus forced to flow along the web from all directions radially towards the exhaust points.

APPARATUS FOR PRODUCING A UNIFORM BAT OF FIBROUS MATERIAL FOR DRYING. J. E. Fleissner, H. Fleissner, and G. Fleissner (Germany). BP 838 649, June 22, 1960. Through BCIRA 40: 3129 (1960). (5124)

The invention is concerned with the formation of a uniform bat of loose fiber which is wider than usual to be deposited on the first perforated rotary suction drum of a drying unit.

HEATING OR DRYING OF SHEET MATERIAL IN FLUIDIZED BEDS. J. Doleman and W. V. Morgan (to Brit. Rayon Research Assoc.). BP 838 784, June 22, 1960. Through BCIRA 40: 3273 (1960). (5125)

A tenter is used to control the width of sheet material running through a hot fluidized bed, e.g. a bed of glass spheres (ballotini) 0.2 in. diameter. The edges of the fabric are engaged by a pair of link chains running in box-like guideways with such a small clearance that the bed particles do not escape. The chains have laterally extending arms or plates provided with pins or clips at their ends.

DRYING ROLL. G. F. Mueller (to Am. Viscose Corp.). USP 2 956 348, Oct. 18, 1960. (5126)

Means for maintaining a temperature differential between the end and central surface portions of a drying roll to achieve uniform moisture content and shrinkage pattern in a flexible sheet, e.g. cellophane.

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